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HARRY KELLOGG, JR.
SVB Financial Group

CHRIS KELLY
Sacramento Kings

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Dear Friends:

Silicon Valley continues its upward spiral.

It’s a story that hasn’t changed since 2010, when we came roaring out of the Great Recession and created a new wave of innovation around the internet, mobile devices, software, and big data. Staggering amounts of venture capital powered this innovation, which in turn fueled seven straight years of economic expansion.

Yes, the pace slowed in 2016, but ever so slightly. There were fewer deals and we lost a percentage point in the sheer rate of job growth (even while outpacing the state and nation). The market made necessary corrections to some overvaluations and we saw fewer IPOs, and yet there is no talk of a bubble bursting. If anything, the talk is about the toll our growth is taking on the region as we move into robotics and artificial intelligence.

It’s become a familiar refrain: growth has its perils. It strains our infrastructure, decreases our quality of living and puts housing out of reach for too many. Growth can also be troubling when it isn’t widely shared. Unfortunately, our report shows that income disparities are more pronounced than ever, changing the character of our region and raising profound questions about community and cohesiveness.

Fortunately, there is a growing recognition that these challenges ultimately erode our innovation ecosystem and threaten the very foundation of our prosperity. Last year Silicon Valley residents took action at the ballot box, voting in bonds for affordable housing and taxes for transportation improvements. The pages of this report show how badly needed those measures are, and that they still won’t be enough.

Our region’s storied innovation has served us so extremely well in the commercial realm. Now, with the stakes so high, we need to apply that same spirit of innovation to our social and civic challenges. As we do, it will be crucially important to have the facts at hand. We’re pleased to provide them.

Sincerely,

Russell Hancock
President & Chief Executive Officer
Joint Venture Silicon Valley
Institute for Regional Studies

ABOUT THE 2017 SILICON VALLEY INDEX
WHAT IS THE INDEX?

The Silicon Valley Index has been telling the Silicon Valley story since 1995. Released in February every year, the Index is a comprehensive report based on indicators that measure the strength of our economy and the health of our community—highlighting challenges and providing an analytical foundation for leadership and decision making.

WHAT IS AN INDICATOR?
An Indicator is a quantitative measure of relevance to Silicon Valley’s economy and community health, that can be examined either over a period of time, or at a given point in time.

Good Indicators are bellwethers that reflect the fundamentals of long-term regional health, and represent the interests of the community. They are measurable, attainable, and outcome-oriented.

Appendix A provides detail on data sources and methodologies for each Indicator.

THE SILICON VALLEY INDEX ONLINE
Data and charts from the Silicon Valley Index are available on a dynamic and interactive website that allows users to further explore the Silicon Valley story.

For all this and more, please visit the Silicon Valley Indicators website at www.siliconvalleyindicators.org.
# TABLE OF CONTENTS

PROFILE OF SILICON VALLEY .................................................................................................................6

THE REGION’S SHARE OF CALIFORNIA’S ECONOMIC DRIVERS .........................................................7

2017 INDEX HIGHLIGHTS ..........................................................................................................................8

PEOPLE
Talent Flows and Diversity .....................................................................................................................10

ECONOMY
Employment ..............................................................................................................................................16
Income ......................................................................................................................................................22
Innovation & Entrepreneurship ................................................................................................................30
Commercial Space ....................................................................................................................................38

SOCIETY
Preparing for Economic Success ............................................................................................................40
Early Education .......................................................................................................................................44
Arts and Culture ......................................................................................................................................46
Quality of Health ....................................................................................................................................48
Safety ......................................................................................................................................................50

PLACE
Housing ..................................................................................................................................................52
Transportation ........................................................................................................................................58
Land Use ................................................................................................................................................64
Environment ............................................................................................................................................66

GOVERNANCE
City Finances .........................................................................................................................................70
Civic Engagement .................................................................................................................................72

APPENDIX A ...........................................................................................................................................76

APPENDIX B ...........................................................................................................................................84

ACKNOWLEDGMENTS .............................................................................................................................86
The geographical boundaries of Silicon Valley vary. Earlier, the region’s core was identified as Santa Clara County plus adjacent parts of San Mateo, Alameda and Santa Cruz counties. However, since 2009, the Silicon Valley Index has included all of San Mateo County in order to reflect the geographic expansion of the region’s driving industries and employment. Because San Francisco has emerged in recent years as a vibrant contributor to the tech economy, we have included some San Francisco data in various charts throughout the Index.

**SILICON VALLEY IS DEFINED AS THE FOLLOWING CITIES:**

**SANTA CLARA COUNTY (ALL)**
Campbell, Cupertino, Gilroy, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Morgan Hill, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga, Sunnyvale

**SAN MATEO COUNTY (ALL)**
Atherton, Belmont, Brisbane, Burlingame, Colma, Daly City, East Palo Alto, Foster City, Half Moon Bay, Hillsborough, Menlo Park, Millbrae, Pacifica, Portola Valley, Redwood City, San Bruno, San Carlos, San Mateo, South San Francisco, Woodside

**ALAMEDA COUNTY**
Fremont, Newark, Union City

**SANTA CRUZ COUNTY**
Scotts Valley

Note: Area, Population, Jobs, and Average Annual Earnings figures are based on the city-defined Silicon Valley region; whereas Net Foreign Immigration and Domestic Migration, Adult Educational Attainment, Age Distribution, Ethnic Composition, and Foreign Born figures are based on Santa Clara and San Mateo County data only. Percentages may not add up to 100% due to rounding.
The Region's Share of California’s Economic Drivers

**SILICON VALLEY** vs. **SAN FRANCISCO**

- **JOBS**
  - Silicon Valley: 9.5%
  - San Francisco: 4.2%

- **GDP**
  - Silicon Valley: 10.4%
  - San Francisco: 4.8%

- **M&A ACTIVITY**
  - Silicon Valley: 21.0%
  - San Francisco: 15.2%

- **IPOs**
  - Silicon Valley: 42.9%
  - San Francisco: 14.2%

- **PATENT REGISTRATIONS**
  - Silicon Valley: 47.2%
  - San Francisco: 6.4%

- **VENTURE CAPITAL**
  - Silicon Valley: 29.6%
  - San Francisco: 44.0%

- **ANGEL INVESTMENT**
  - Silicon Valley: 28.8%
  - San Francisco: 45.4%

---

**San Francisco**

- Land Area: 0.03%
- Population: 2.2%

**Silicon Valley**

- Land Area: 1.19%
- Population: 7.8%

---

**Silicon Valley Percentage of California GDP includes San Mateo and Santa Clara counties only.**

Data Sources:
- Land Area (U.S. Census Bureau, 2010)
- Population (California Department of Finance, 2016)
- GDP (Moody’s Economy.com, 2016)
- Venture Capital (PricewaterhouseCoopers/National Venture Capital Association MoneyTreeTM Report, Data: CB Insights)
- Initial Public Offerings (Renaissance Capital, 2016)
- Jobs (U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, JobDQ, Q2 2016)
- Angel Investment (Crunchbase, 2016)
- Mergers & Acquisitions (Factset Research Systems, Inc., 2016 through Dec. 7)
Silicon Valley’s innovation economy continues to thrive, creating new opportunities for the region’s residents and talented people from around the world. Businesses are expanding, unemployment is reaching new lows, and the region’s population continues to grow both in number and in its diversity. At the same time, our growth is overwhelming the region’s transportation infrastructure and our supply of housing isn’t nearly keeping pace with demand. And, despite widespread prosperity, large income disparities exist and many residents are struggling to make ends meet.

Silicon Valley has now compiled seven straight years of job growth, coupled with declining unemployment rates. Silicon Valley emerged early from the Great Recession, achieving positive job growth in 2010; since then, the Valley has created 297,000 new jobs. In the last year alone, Silicon Valley’s employment has grown by 45,621 new jobs, with a year-over-year growth rate of 3 percent. Not surprisingly, a large share of the new jobs was concentrated in tech, which was up 5.2 percent over the previous year. The fastest growing tech sectors were biotech, internet, and computer design. Apart from tech, the region also saw significant growth in construction (+6,864) and healthcare (+6,829). Silicon Valley’s sustained job growth has been coupled with declining unemployment rates, which reached a low of 3.1 percent in May 2016.

Silicon Valley’s innovation engine is still going strong. Total venture capital investment, though down from the previous year, remained relatively high in 2016: $9.3 billion flowed to Silicon Valley companies (and $13.8 billion to San Francisco companies). The funding was heavily concentrated in internet and mobile products and services. Silicon Valley inventors registered 19,000 patents in 2015, and our region claims enormous shares of the state’s and the nation’s patents (47 percent and 13 percent, respectively).

However, there were fewer M&A deals and IPOs. In 2016, Silicon Valley had only nine Initial Public Offerings – seven fewer than the prior year and 14 fewer than the year before that. There was also a decline in mergers and acquisitions in 2016 (593 deals), which had been increasing steadily since 2012 and had reached a high of 853 deals in 2015. San Francisco IPO and M&A activity exhibited similar trends as in Silicon Valley.

Tech jobs keep attracting talent from around the world. While the region’s share of foreign-born residents (38 percent) is high relative to the state and nation, the share is even larger for employed tech workers in the core working age group: 67 percent of 25-to-44-year-olds holding tech jobs are foreign-born. The figure is even higher for Silicon Valley’s women in that cohort (76 percent).

Residents, as a whole, are doing very well. Silicon Valley continues to be a high-income region, with average annual earnings reaching their highest level to date ($125,580, including wages and supplements). Per capita income has reached an all-time high ($86,976) and median household income ($102,036) is also growing. All of these figures dwarf those of the state and nation. The region also has a poverty rate (8.3% in 2015) relative to the rest of the state (15.3%) and the U.S. as a whole (14.7%). The vast majority of Silicon Valley adults (93 percent) now have health insurance (a figure that shot up in 2014 after the implementation of the Affordable Care Act). Most residents have a computer and access to broadband (94% and 88%, respectively), and the region’s youth are outperforming their counterparts around the state with high school graduation rates (85 percent) and meeting UC/CSU entrance requirements (54 percent).

Traffic congestion continues to mount. Over the past decade the region’s commuters have been driving fewer miles per person (1,100 per year fewer than in 2005), and a smaller share are driving to work alone (73 percent of commuters, compared to 76% in 2005). More of our residents are using public transit (6%, compared to 4% in 2005) and alternative modes such as bicycling to work (2%, compared to 1% in 2005). These gains are overwhelmed, however, by the growing total number of commuters. Since 2005, there has been an increase of 228,000 Santa Clara and San Mateo County residents who commute to work (driving within the region and to other parts of the Bay Area) plus 57,000 additional commuters coming into Silicon Valley from San Francisco and Alameda Counties. The influx has caused commute times to rise by nearly 17 percent.
Running out of space?
Silicon Valley has a limited amount of developable space. Despite the increasing trend toward more densely-packed housing (66% of permitted units in 2016 were for multi-family developments, and residential density of newly approved units shot up to 24 dwelling units per acre), not enough units are being built to accommodate the region's rapidly growing population. Meanwhile, as the region's companies continue to grow and thrive, they are taking up existing space and building more wherever they can (only 46% of newly approved development was within walking distance of transit). But despite the extremely high amount of new non-residential construction over the past two years, Silicon Valley's commercial space availability actually declined in 2016 by more than 800,000 square feet. This decline was due to increased occupancy rates, as well as demolition of older space, incomplete construction projects, and purchases of buildings by large users themselves (such as Google and others) which removes those buildings from the available inventory.

Cost of living is soaring.
The cost of goods and services in the Bay Area is higher than in California or other parts of the country (by 4% and 10%, respectively) and over the past 10 years, it has increased by 27 percent. More than those costs, though, our housing costs are crippling huge swaths of our population. The median sale price of homes in Silicon Valley reached $880,000 in 2016, a price fewer than 40 percent of first-time homebuyers can afford. Furthermore, only a small share of recent housing permits were affordable for low-income residents (10% of permits in the current RHNA cycle, and only 7% of units approved in FY 2015-16).

Income disparities persist.
Though gains in per capita personal income and median household income continued into 2015, outpacing inflation, significant income disparities exist among Silicon Valley’s residents. Gains in per capita income varied significantly by race and ethnicity, and some groups lost ground. This divergence has led to a 40% increase in the gap between the region’s highest- and lowest-earning racial/ethnic groups since 2006 (reaching a gap of $47,000 in 2015). Furthermore, one out of every 12 Silicon Valley residents lives below the federal poverty threshold, and one in 11 children lives in poverty. An even larger share of the region’s households (29%) do not earn enough money to meet their basic needs without public or private, informal assistance, and this share jumps up to 59% for those with Hispanic or Latino householders.

Environmental leadership.
Silicon Valley has responded in full-force to recent drought conditions, reducing water use significantly and consuming fewer than 100 gallons per person per day (a 15-year low). Electricity consumption has declined by 10% since 2008, and reliance on grid electricity has dropped as the region continues to install solar photovoltaic (PV) systems. The amount of solar PV installed in Silicon Valley has more than doubled over the past four years, reaching a cumulative installed solar capacity of 332 megawatts in 2016. Electric vehicle usage is on the rise, and Silicon Valley claims a large share of the state’s public EV infrastructure (13 percent of all charging outlets) and drivers (20 percent).

Public safety.
The number of Silicon Valley public safety officers reached nearly 5,500 in 2016, more than at any other time over the past decade. Felony arrest rates dropped significantly in 2015, though this was likely due to the passage of California Proposition 47, which reduced some felony offenses to misdemeanors. However, the number of violent crimes in Silicon Valley increased (reaching 7,000 reported), primarily due to a rise in aggravated assaults in San Mateo County and reported rapes in Santa Clara County.

Civic engagement.
Silicon Valley voters are mostly registered as Democrats (49%) or with no political party preference (29%), and the share registered as Republicans continues to decline (reaching 19% in 2016, down from 32% in 1998). A large majority of voters (72%) participates via absentee ballot, and the greatest eligible voter turnout is among Silicon Valley’s eldest residents (74% of those ages 65+). Although eligible voter turnout for young adults (ages 18-24) remains relatively low, this age group was highly mobilized in the 2016 general election compared to 2012, with a turnout increase of +14,000 people (up 6 percentage points).
WHY IS THIS IMPORTANT?

Silicon Valley’s most important asset is its people, who drive the economy and shape the region’s quality of life. Population growth is reported as a function of migration (immigration and emigration) and natural population change (the difference between the number of births and deaths). Delving into the diversity and makeup of the region’s people helps us understand both our assets and our challenges. The number of science and engineering degrees awarded regionally helps to gauge how well Silicon Valley is preparing talent. A highly educated local workforce is a valuable resource for generating innovative ideas, products and services. The region has benefited significantly from the entrepreneurial spirit of people drawn to Silicon Valley from around the country and the world. Historically, immigrants have contributed considerably to innovation and job creation in the region, state and nation.1 Maintaining and increasing these flows, combined with efforts to integrate immigrants into our communities, will likely improve the region’s potential for global competitiveness.

**People are moving out of Silicon Valley nearly as quickly as they are moving in.** Between July 2015 and July 2016, the region gained 22,500 foreign immigrants, but lost 20,801 residents to other parts of California and the United States.

**Silicon Valley’s domestic out-migration in 2016 was greater than in any other year since 2006.**

**Net Migration Flows**

*Foreign & Domestic Migration*

*Santa Clara & San Mateo Counties*

![Net Migration Flows Graph]

**Age Distribution**

*Santa Clara and San Mateo Counties, San Francisco, California, and the United States | 2015*

<table>
<thead>
<tr>
<th></th>
<th>17 and under</th>
<th>18-24</th>
<th>25-44</th>
<th>45-64</th>
<th>65 and older</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon Valley</td>
<td>22%</td>
<td>8%</td>
<td>30%</td>
<td>26%</td>
<td>13%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>13%</td>
<td>8%</td>
<td>39%</td>
<td>26%</td>
<td>15%</td>
</tr>
<tr>
<td>California</td>
<td>23%</td>
<td>10%</td>
<td>28%</td>
<td>25%</td>
<td>13%</td>
</tr>
<tr>
<td>United States</td>
<td>23%</td>
<td>10%</td>
<td>26%</td>
<td>26%</td>
<td>15%</td>
</tr>
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</table>

**Population Change, by Age Category**

*Santa Clara & San Mateo Counties*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>17 and under</td>
<td>+1.3%</td>
<td>-0.4%</td>
</tr>
<tr>
<td>18-24</td>
<td>+24.7%</td>
<td>+0.3%</td>
</tr>
<tr>
<td>25-44</td>
<td>+9.0%</td>
<td>+0.8%</td>
</tr>
<tr>
<td>45-64</td>
<td>+17.7%</td>
<td>+1.5%</td>
</tr>
<tr>
<td>65 and older</td>
<td>+39.1%</td>
<td>+3.5%</td>
</tr>
<tr>
<td>Total</td>
<td>+13.7%</td>
<td>+1.1%</td>
</tr>
</tbody>
</table>

**Silicon Valley’s population is aging.** The number of residents over age 65 has grown by 39% over the past decade, while the overall population has only grown by 14%.

**Silicon Valley’s population under age 17 has grown more slowly than other age groups since 2005, and actually declined by approximately 2,400 children between 2014 and 2015.**

**San Francisco has a much larger share of 25-44 year-olds – the core working age group – than California or the United States; Silicon Valley’s share of 25-44 year-olds is only slightly higher than in the state as a whole.**

---

*Data Source: United States Census Bureau, American Community Survey 1-Year Estimates | Analysis: Silicon Valley Institute for Regional Studies*
**Births**
Santa Clara & San Mateo Counties, and California

Silicon Valley and California birth rates have declined significantly since 2008 (down 13% and 14%, respectively), and were lower in 2016 than in any year since the mid-1980s.

**Educational Attainment**
Percentage of Adults, by Educational Attainment
Santa Clara & San Mateo Counties, San Francisco, California, and the United States

The share of Silicon Valley residents with a bachelor’s degree or higher (48.8%) increased by 4.5 percentage points over the past decade (from 44.3% in 2005).

22% of Silicon Valley and San Francisco adults have a graduate or professional degree.
In 2015, there were 15,122 science and engineering degrees conferred among Silicon Valley’s top academic institutions – 894 more (+6%) than the previous year and 3,600 more (+31%) than a decade prior.

The share of Silicon Valley science and engineering degrees conferred to women has declined by 0.5% over the past decade.

Educational attainment levels for Silicon Valley’s Hispanic or Latino residents remain low relative to other racial and ethnic groups, they have increased over time; 17% of Silicon Valley’s Hispanic or Latino residents had a bachelor’s degree or higher in 2015, compared to 13% in 2005.

Educational attainment varies significantly across racial and ethnic groups.
Silicon Valley’s foreign-born population share (37.5%) – which is much higher than the state as a whole – increases significantly for employed residents (46%), employed residents in the core working age group (49%), and specifically for women ages 25-44 in computer, mathematical, architectural and/or engineering occupations (76%).

More than ¾ of Silicon Valley’s female 25- to 44-year olds in computer, mathematical, architectural and engineering occupations are foreign born. These women are disproportionately married with children, and primarily come from Asian countries.
The share of Silicon Valley residents who speak a foreign language at home has increased over the past decade, from 48% in 2005 to 51% in 2015; in contrast, San Francisco’s share of foreign language-speakers has declined by two percentage points over the same time period.

<table>
<thead>
<tr>
<th>Foreign Language</th>
<th>Languages Other Than English Spoken at Home for the Population 5 Years and Over</th>
<th>Santa Clara &amp; San Mateo Counties, San Francisco, California, and the United States</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2005</td>
<td>2010</td>
<td>2015</td>
</tr>
<tr>
<td>Silicon Valley</td>
<td>48%</td>
<td>50%</td>
<td>51%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>46%</td>
<td>45%</td>
<td>44%</td>
</tr>
<tr>
<td>California</td>
<td>42%</td>
<td>44%</td>
<td>45%</td>
</tr>
<tr>
<td>United States</td>
<td>19%</td>
<td>21%</td>
<td>21%</td>
</tr>
</tbody>
</table>

More than half of Silicon Valley’s population over age five speaks a language other than exclusively English at home.

Silicon Valley’s foreign language-speakers are less likely to speak Spanish (37%) than in California (65%) or the United States overall (62%).

Data Source: United States Census Bureau, American Community Survey | Analysis: Silicon Valley Institute for Regional Studies
Silicon Valley created nearly 46,000 new jobs in 2016, with a year-over-year growth rate (+3%) only slightly slower than in the three years prior. With this sustained job growth, the unemployment rate is lower than it has been in over a decade, and the region has far-surpassed pre-recession employment levels, particularly in Innovation and Information Products and Services jobs, which are 30% higher than they were in 2007. While gains have occurred across all skill and wage levels, they have been less pronounced in the mid-wage/mid-skill professions.

**WHY IS THIS IMPORTANT?**

Employment gains and losses are a core means of tracking economic health and remain central to national, state and regional conversations. Over the course of the past few decades, Silicon Valley (like many other communities) has experienced shifts in the composition of industries that underlie the local economy. Examining employment by wage and skill level allows for a higher level of granularity to help us understand the changing composition of jobs within the region. While employment by industry and by wage/skill level provides a broader picture of the region’s economy as a whole, observing the unemployment rates of the population residing in the Valley reveals the status of the immediate Silicon Valley-based workforce. The way in which the region’s industry patterns change shows how well our economy is maintaining its position in the global economy.
The total number of jobs in Silicon Valley has far surpassed pre-recession levels, and has continued to grow.

The Q2 2015 to Q2 2016 job growth in San Francisco was more rapid (+4.0%) than in Silicon Valley (+3.0%), California (+2.5%), or the United States overall (+1.5%).

Silicon Valley employment levels have grown by 23% (299,288 jobs) since 2010 – the beginning of the economic recovery period.

**Relative Job Growth**

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Silicon Valley</td>
<td>20%</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Santa Clara &amp; San Mateo Counties</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Alameda County</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>California</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>United States</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Data Sources: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages; JobsEQ | Analysis: BW Research

Nearly half of all Silicon Valley jobs are in Community Infrastructure and Services; 26% are in Innovation and Information Products and Services.

**Share of Total Employment, by Major Areas of Economic Activity**

- **Silicon Valley**
  - Business Infrastructure & Services: 16.3%
  - Innovation and Information Products & Services: 25.7%
  - Community Infrastructure & Services: 49.3%
  - Other Manufacturing: 3.6%
  - Other: 5.1%

- **San Francisco**
  - Business Infrastructure & Services: 23.2%
  - Innovation and Information Products & Services: 12.6%
  - Community Infrastructure & Services: 57.3%
  - Other Manufacturing: 1.0%
  - Other: 5.8%

Data Sources: BW Research; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages; JobsEQ | Analysis: BW Research
Silicon Valley jobs in Innovation and Information Products and Services – such as computer hardware, software, internet & information services, and biotech – grew by 5% (+20,035) between Q2 2015 and Q2 2016.
Silicon Valley’s unemployment rate was 3.3% in November 2016 (compared to 3.1% in San Francisco, 5.0% in California, and 4.4% in the U.S. overall).

Note: Santa Clara County, San Mateo County, San Francisco and California data for November 2016 are Preliminary; Rates are not seasonally adjusted. | Data Source: U.S. Bureau of Labor Statistics, Current Population Survey (CPS) and Local Area Unemployment Statistics (LAUS) | Analysis: Silicon Valley Institute for Regional Studies
Employment

Unemployment rates for all racial/ethnic groups in Silicon Valley were near or below pre-recession (2007) levels in 2015.

While the unemployment rate for Silicon Valley Black or African American residents remained higher than for other racial/ethnic groups in 2015 (at 5.8%), it has dropped the most since 2013 (down four percentage points in two years).

Unemployed Residents’ Share of the Working Age Population
Residents Over 16 Years of Age, by Race/Ethnicity
Santa Clara & San Mateo Counties

Note: Other includes the categories Some Other Race and Two or More Races. | Data Source: United States Census Bureau, American Community Survey | Analysis: Silicon Valley Institute for Regional Studies

Employment across all tiers has exceeded pre-recession levels, but growth has been uneven with fewer gains for mid-wage mid-skill (Tier 2) jobs in both Silicon Valley and San Francisco.

Silicon Valley employment gains since the beginning of the recovery period have occurred across all Tiers, but job gains in Tiers 1 and 3 have been more rapid than in Tier 2; San Francisco employment gains since 2010 have been most rapid for Tier 1 jobs.

Percent Change in Employment, by Tier

<table>
<thead>
<tr>
<th>2007-2016</th>
<th>2010-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon Valley</td>
<td>San Francisco</td>
</tr>
<tr>
<td>Tier 1</td>
<td>+17.4%</td>
</tr>
<tr>
<td>Tier 2</td>
<td>+7.5%</td>
</tr>
<tr>
<td>Tier 3</td>
<td>+16.5%</td>
</tr>
<tr>
<td>Total</td>
<td>+15.3%</td>
</tr>
</tbody>
</table>

Employment Total Employment by Tier
Silicon Valley

43% of all Silicon Valley jobs in 2016 were Tier 2 (mid-skill, mid-wage).

Note: Definitions of Tier 1, Tier 2, and Tier 3 jobs are included in Appendix A. | Data Sources: BW Research, U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages; California Employment Development Department, JobsEQ, EMSI | Analysis: BW Research
Since 2012, the share of Silicon Valley jobs in each tier has remained almost unchanged.

The long-term trend indicates that the share of Silicon Valley employment in Tier 2 jobs has decreased by 4.5% over the past 15 years, although year-to-year changes have been relatively small.
Silicon Valley continues to be a high-income, low-poverty region relative to the rest of the state and the nation as a whole. Income gains continued into 2015, outpacing inflation, although there are some indications of decline in 2016 that have yet to be fully revealed. Despite high incomes as a whole, income challenges exist for the region’s residents including a large share of the population that is not self-sufficient, an increasing share of households in the highest income ranges, and income gaps between genders, racial/ethnic groups, occupational groups, and residents of varying skill/educational attainment levels.

WHY IS THIS IMPORTANT?

Income growth is as important a measure of Silicon Valley’s economic vitality as is job growth. Considering multiple income measures together provides a clearer picture of regional prosperity and its distribution. Real per capita income rises when a region generates wealth faster than its population increases. The median household income is the income value for the household at the middle of all income values. Examining income by educational attainment, gender, race/ethnicity and occupational groups reveals the complexity of our income gap. The share of households living under the federal poverty limit, as well as the percentage of public school students receiving free or reduced price meals (FRPM), are indicators of family poverty.¹

¹. To be eligible for the FRPM program, family income must fall below 130% of the federal poverty guidelines for free meals and below 185% for reduced price meals. The federal poverty limit for California in 2015 (used to set 2015-2016 FRPM eligibility) ranged from $11,770 for a one-person household to $40,890+ for a household with eight or more people. The poverty limit for a family of four was $24,250.
Between 2014 and 2015, Silicon Valley per capita income increased for some racial and ethnic groups (White, Asian, and Black or African American), while decreasing for others (Hispanic or Latino, and Multiple & Other).

Since the beginning of the economic recovery period in 2010, per capita income gains have outpaced inflation for most racial and ethnic groups in Silicon Valley, San Francisco, California, and the United States.
ECONOMY

Income

Median Household Income

Santa Clara & San Mateo Counties, San Francisco, California, and the United States

Note: Household income includes wage or salary income; net self-employment income; net rental or royalty income from estates and trusts; Social Security or railroad retirement income; Supplemental Security income; public assistance or welfare payments; retirement, survivor, or disability pensions; and all other income; excluding stock options. | Data Source: United States Census Bureau, American Community Survey | Analysis: Silicon Valley Institute for Regional Studies


<table>
<thead>
<tr>
<th>Location</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon Valley</td>
<td>+0.9%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>+5.5%</td>
</tr>
<tr>
<td>California</td>
<td>+2.7%</td>
</tr>
<tr>
<td>United States</td>
<td>+3.8%</td>
</tr>
</tbody>
</table>

Median household income in Silicon Valley is 1.6 times higher than in California overall.

Average Wages

Silicon Valley, San Francisco, Alameda County, Rest of Bay Area, and California

Note: Rest of Bay Area includes all of the 9-County Bay Area except Silicon Valley, San Francisco, and Alameda County. 2015 to 2016 average wages were updated to reflect Q2 reported growth. The U.S. Bureau of Labor Statistics strongly discourages the comparison of wage estimates from year to year due to a variety of reasons including classification and other methodological changes. Caution is advised in using this data to draw conclusions about short-term trends. | Data Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages; JobsEQ | Analysis: BW Research

Between Q1 2015 and Q1 2016, average wages fell in Silicon Valley, San Francisco, and throughout the state.

Data through Q1 suggests that average wages in Silicon Valley declined in 2016 (-7% since Q1 2015, after inflation-adjustment) following gains since 2008.
Since 2010, median wages (after inflation-adjustment) for Service Occupations have declined by 8%.

Median wages for Silicon Valley Tier 1 workers were $114,000 in 2016.

Tier 1 workers in Silicon Valley earn 4.2 times more than Tier 3 workers (a gap of $86,600 in 2016).
The Silicon Valley poverty rate did not change significantly between 2014 and 2015, declining 0.2 percentage points to 8.3%.

Silicon Valley’s childhood poverty rate is relatively low in comparison to that of the state; still, one out of every 11 Silicon Valley children lives in poverty.

The share of Silicon Valley children living in poverty declined between 2013 and 2014, and remained low in 2015.

Between 2014 and 2015, Silicon Valley lost 17,583 low-to-moderate-income households ($35,000 to $150,000) and 3,658 very low-income households ($10,000-$25,000); San Francisco had similar losses.

Data Source: United States Census Bureau, American Community Survey | Analysis: Silicon Valley Institute for Regional Studies

Change in the Number of Households by Income Category
2014-2015
Santa Clara & San Mateo Counties, and San Francisco

Note: Income ranges are based on nominal values. Household income includes wage and salary income, net self-employment income, interest dividends, net rental or royalty income from estates and trusts, Social Security or railroad retirement income, Supplemental Security Income, public assistance or welfare payments, retirement, survivors, or disability pensions, and all other income excluding stock options. | Data Source: United States Census Bureau, American Community Survey | Analysis: Silicon Valley Institute for Regional Studies
Nearly 30% of all Silicon Valley households do not make enough money to meet their basic needs without public or private, informal assistance.

**Self-Sufficiency**
Percentage of Households Living in Poverty and Below Self-Sufficiency Standards, 2012
Santa Clara & San Mateo Counties, San Francisco, and California

<table>
<thead>
<tr>
<th></th>
<th>Below Standard and Above Poverty</th>
<th>Below Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santa Clara &amp; San Mateo Counties</td>
<td>7.6%</td>
<td>29.5%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>9.1%</td>
<td>26.8%</td>
</tr>
<tr>
<td>California</td>
<td>13.4%</td>
<td>38.3%</td>
</tr>
</tbody>
</table>

**Share of Households Living Below the Self-Sufficiency Standard, by Race/Ethnicity of Householder**
Santa Clara & San Mateo Counties | 2012

- Asian/Pacific Islander: 23.8%
- Black: 33.6%
- Hispanic or Latino: 58.8%
- White: 19.0%
- Other: 30.8%

Note: The Self-Sufficiency Standard defines the amount of income necessary to meet basic needs without public subsidies or private/informal assistance. The federal poverty limit for Santa Clara and San Mateo Counties in 2012 ranged from $11,170 for a one-person household to $50,890+ for a household with eight or more people. The poverty limit for a family of four was $23,050.

**Share of Households With Income Greater Than $150,000 Annually**
2011-2015
Santa Clara & San Mateo Counties, San Francisco, California, and the United States

- Silicon Valley: 11.3% to 33.8%
- San Francisco: 11.3% to 31.1%
- California: 11.3% to 16.4%
- United States: 11.3% to 11.3%

Note: Household income includes wage and salary income, net self-employment income, interest, dividends, net rental or royalty income from estates and trusts, Social Security or railroad retirement income, Supplemental Security Income, public assistance or welfare payments, retirement, survivor, or disability pensions, and all other income excluding stock options.

Silicon Valley has a larger share of high-income (> $150,000 annually) households than San Francisco, California, or the U.S. as a whole.

Continuing a three-year upward trend, Silicon Valley gained more than 36,000 high-income households in 2015.
Between 2014 and 2015, individual median income increased (after adjusting for inflation) for Silicon Valley residents with a graduate or professional degree only (up by $3,578 annually, reaching $108,395), while decreasing for residents with lower levels of educational attainment.

Median income varies significantly by educational attainment level.

Silicon Valley Residents with a graduate or professional degree earn nearly $86,000 more than those with less than a high school diploma (a ratio of 4.8); this gap has widened by nearly $5,000 since 2014.

The income gap between residents of varying educational attainment levels is greater in Silicon Valley than in San Francisco, California, or the United States as a whole.

More than one third of Silicon Valley students ages 5-17 receive free or reduced price school meals.
The gender-income gap in Silicon Valley is wider at higher levels of educational attainment.

Men in Silicon Valley with a bachelor’s degree earn an average of $117,000 annually – 50% ($39,000) more than women with the same level of educational attainment.
Labor productivity decreased slightly in 2016, with employment gains outpacing the increase in regional GDP; however, Silicon Valley has experienced significant labor productivity gains over the long-term.

Over the past 20 years, the region’s share of California and U.S. patent registrations has increased dramatically, as has the total number of patents registered in key technology areas.

Total venture capital investments remain relatively high – partially due to the prevalence of megadeals (more than $100 million each), and with funding flowing in particular to Internet, Mobile and Telecommunications companies – despite a slight decline in total funding year-over-year in both VC and Angel investments. There was also decline in total M&A deals, and IPOs in 2016.

Establishment closures in recent years have led to a net loss of Silicon Valley companies, while the number of entrepreneurs starting businesses on their own has continued to grow.

**WHY IS THIS IMPORTANT?**

Innovation, a driving force behind Silicon Valley’s economy, is a vital source of regional competitive advantage. It transforms novel ideas into products, processes and services that create and expand business opportunities. Entrepreneurship is an important element of Silicon Valley’s innovation system. Entrepreneurs are the creative risk takers who create new value and new markets through the commercialization of novel and existing technology, products and services. A region with a thriving innovation habitat supports a vibrant ecosystem to start and grow businesses.

Entrepreneurship, in both new and established businesses, hinges on investment and value generated by employees. Patent registrations track the generation of new ideas, as well as the ability to disseminate and commercialize these ideas. The activity of mergers and acquisitions (M&As) and initial public offerings (IPOs) indicate that a region is cultivating successful and potentially high-value companies.

Growth in firms without employees indicates that more people are going into business for themselves. And the movement of businesses to and from Silicon Valley provides insight into the continued attractiveness of the region.

Finally, tracking both the types of patents and areas of venture capital (VC) investment over time provides valuable insight into the region’s longer-term direction of development. Changing business and investment patterns could point to a new economic structure supporting innovation in Silicon Valley.

**Value added per employee declined by 1% in Silicon Valley between 2015 and 2016 despite a 2% gain in regional GDP (after adjusting for inflation).**

**Percent Change in Value Added Per Employee**

<table>
<thead>
<tr>
<th></th>
<th>2000-2016</th>
<th>2015-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon Valley</td>
<td>+14.5%</td>
<td>-1.2%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>+13.8%</td>
<td>-1.0%</td>
</tr>
<tr>
<td>California</td>
<td>+12.9%</td>
<td>-0.6%</td>
</tr>
<tr>
<td>United States</td>
<td>+18.7%</td>
<td>+0.1%</td>
</tr>
</tbody>
</table>

*Silicon Valley labor productivity was 15% higher in 2016 than it was in the year 2000.*
Over the past 20 years, Silicon Valley’s share of California and U.S. patent registrations has increased dramatically (from 34% to 47%, and from 6% to 13%, respectively).

In 2015, 54% of California patents were registered to Silicon Valley or San Francisco inventors.

Over the past 20 years, the number of Silicon Valley patent registrations in Computers, Data Processing and Information Storage has increased tenfold.

In 2015, there were 18,957 patents registered to Silicon Valley inventors (compared to 2,583 to San Francisco inventors); this number represents 457 fewer than the prior year.
Innovation & Entrepreneurship

Venture Capital Investment
Silicon Valley and San Francisco

- Silicon Valley
- Silicon Valley + San Francisco Share of California Total
- San Francisco
- Silicon Valley + San Francisco Share of U.S. Total

Data Source: PricewaterhouseCoopers/National Venture Capital Association MoneyTree® Report, Data: CB Insights (beginning with Q4 2015), Thomson Reuters (prior to Q4 2015) | Analysis: Silicon Valley Institute for Regional Studies; Jon Haveman, Marin Economic Consulting

The region’s share of California VC investments increased to 74% in 2016.

2016 Silicon Valley and San Francisco venture capital investments totaled $23.1 billion ($9.3 billion in Silicon Valley and $13.8 billion in San Francisco).

Internet, Mobile & Telecommunications companies received 66% of all 2016 Silicon Valley venture capital funding.

The share of VC funding to Silicon Valley Internet companies declined between 2015 and 2016 (from 48% to 37%), while the share going to Mobile & Telecommunications companies increased (from 23% to 29%).

Non-Internet/Mobile Software represented 7% of all VC investments in 2016 – down from 24% over a 15-year period as Internet, Mobile & Telecommunications funding has grown.

2017 Silicon Valley Index
Silicon Valley had five megadeals in 2016 (more than $100 million each), compared to 12 in San Francisco.

### Angel Investment

Silicon Valley, San Francisco, and California

<table>
<thead>
<tr>
<th>Year</th>
<th>Silicon Valley</th>
<th>San Francisco</th>
<th>Silicon Valley + San Francisco Share of California Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>$1,400.00</td>
<td>$1,100.00</td>
<td>95%</td>
</tr>
<tr>
<td>2012</td>
<td>$1,200.00</td>
<td>$1,300.00</td>
<td>88%</td>
</tr>
<tr>
<td>2013</td>
<td>$1,100.00</td>
<td>$1,200.00</td>
<td>84%</td>
</tr>
<tr>
<td>2014</td>
<td>$1,000.00</td>
<td>$1,100.00</td>
<td>80%</td>
</tr>
<tr>
<td>2015</td>
<td>$900.00</td>
<td>$1,000.00</td>
<td>73%</td>
</tr>
<tr>
<td>2016</td>
<td>$800.00</td>
<td>$900.00</td>
<td>68%</td>
</tr>
</tbody>
</table>

Note: Only includes disclosed financing data for all deals that were designated specifically as Angel funding rounds and seed stage investments that included at least one Angel investor. Data Source: Crunchbase | Analysis: Silicon Valley Institute for Regional Studies

### Top Venture Capital Deals of 2016

<table>
<thead>
<tr>
<th>Investee Company Name</th>
<th>City</th>
<th>Amount (millions)</th>
<th>Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denali Therapeutics Inc.</td>
<td>South San Francisco</td>
<td>$130.00</td>
<td>3</td>
</tr>
<tr>
<td>Unity Biotechnology Inc.</td>
<td>Brisbane</td>
<td>$116.00</td>
<td>4</td>
</tr>
<tr>
<td>Zoox Inc.</td>
<td>Menlo Park</td>
<td>$103.00</td>
<td>2</td>
</tr>
<tr>
<td>Stem Inc.</td>
<td>Millbrae</td>
<td>$100.00</td>
<td>3</td>
</tr>
<tr>
<td>Musical.ly Inc.</td>
<td>Palo Alto</td>
<td>$100.00</td>
<td>2</td>
</tr>
<tr>
<td>Quanergy Systems Inc.</td>
<td>Sunnyvale</td>
<td>$90.00</td>
<td>3</td>
</tr>
<tr>
<td>Kateeva Inc.</td>
<td>Newark</td>
<td>$88.00</td>
<td>2</td>
</tr>
<tr>
<td>Apttus Inc.</td>
<td>Foster City</td>
<td>$88.00</td>
<td>3</td>
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<tr>
<td>Hotchalk Inc.</td>
<td>Campbell</td>
<td>$83.10</td>
<td>1</td>
</tr>
<tr>
<td>Guardant Health Inc.</td>
<td>Redwood City</td>
<td>$82.80</td>
<td>1</td>
</tr>
<tr>
<td>Uber Technologies Inc.</td>
<td></td>
<td>$3,500.00</td>
<td>2</td>
</tr>
<tr>
<td>Lyft Inc.</td>
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<td>$1,000.00</td>
<td>1</td>
</tr>
<tr>
<td>AirBnB Inc.</td>
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<td>$555.50</td>
<td>3</td>
</tr>
<tr>
<td>OpenDoor Labs Inc.</td>
<td></td>
<td>$210.00</td>
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<tr>
<td>Uber Technologies Inc.</td>
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<td>$202.00</td>
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<tr>
<td>Slack Technologies Inc.</td>
<td></td>
<td>$200.00</td>
<td>2</td>
</tr>
<tr>
<td>Unity Technologies ApS</td>
<td></td>
<td>$181.00</td>
<td>3</td>
</tr>
<tr>
<td>Stripe Inc.</td>
<td></td>
<td>$157.00</td>
<td>4</td>
</tr>
<tr>
<td>MetroMile Inc.</td>
<td></td>
<td>$153.10</td>
<td>3</td>
</tr>
<tr>
<td>Postmates Inc.</td>
<td></td>
<td>$141.00</td>
<td>4</td>
</tr>
</tbody>
</table>

Data Source: PricewaterhouseCoopers/National Venture Capital Association Moneytree™ Report, Data: Thomson Reuters & CB Insights | Analysis: Silicon Valley Institute for Regional Studies

### Economy

Silicon Valley had two substantially large venture capital deals in 2016, Uber ($3.5 billion) and Lyft ($1 billion).
In 2016, there were nine Silicon Valley IPO pricings; several of the companies were in the semiconductor equipment and/or manufacturing industries, and others were in computers or health.

The number of IPO pricings in Silicon Valley has declined for the second year in a row, as has the total number IPOs nationwide (with only 105 in 2016, down from 169 in 2015 and 275 in 2014).

21% of all 2016 California M&A deals involved at least one Silicon Valley company.

Silicon Valley’s largest M&A deal of 2016 was Microsoft’s acquisition of LinkedIn, which had a base equity value of $26.6 billion; the next largest deal was the Analog Devices acquisition of Milpitas-based Linear Technology Corporation for $14.4 billion.

There were nearly 600 M&A deals involving Silicon Valley companies in 2016* – 260 fewer than during the prior year.
The majority of International Companies going public on U.S. exchanges in 2016 were from China (6), Bermuda (3), the Netherlands (2) and Switzerland (2).

In 2016, 19 international companies from ten countries went public on U.S. stock exchanges, compared to 35 companies from 17 countries in 2015.

Silicon Valley and San Francisco had larger shares of Target M&A deals (48% and 40%, respectively) in 2016 than in recent years.

Silicon Valley companies completed only 363 acquisitions in 2016* compared to 585 in 2015.

52% of Silicon Valley’s M&A activity is Acquirer Only deals.
The number of nonemployer firms in Silicon Valley grew by 21% between 2004 and 2014, compared to +31% in San Francisco and +32% in Alameda County.

In 2014, Silicon Valley had more than 202,000 businesses without paid employees (primarily consisting of self-employed individuals operating very small, unincorporated businesses).
In 2014, there were 14,000 new firms that opened in Silicon Valley, and more than 600 additional firms that moved into the region.

Between 2012 and 2014, Silicon Valley had a net loss of nearly 25,000 establishments due to more firms closing than opening.

25% of Silicon Valley nonemployer firms are in Professional, Scientific, and Technical Services.

*Other includes Accommodation & Food Services; Mining, Quarrying and Oil & Gas Extraction; Agriculture, Forestry, Fishing & Hunting; and Utilities. | Data Source: United States Census Bureau, Nonemployer Statistics | Analysis: Silicon Valley Institute for Regional Studies
New construction of office space continues to soar, while vacancy rates and overall commercial space availability decline. Average asking rents for Silicon Valley office and industrial space increase as demand outweighs supply.

**WHY IS THIS IMPORTANT?**

Changes in the supply of commercial space, vacancy rates and asking rents (i.e., the rent listed for new space) provide leading indicators of regional economic activity. In addition to office space, commercial space includes R&D and industrial space. A negative change in the available supply of commercial space suggests strengthening economic activity and tightening in the commercial real estate market. The vacancy rate measures the amount of space that is not physically occupied. Increases in vacancy, as well as declines in rents, reflect slowing demand relative to supply.

![Commercial Vacancy Graph](image)(Silicon Valley office space vacancy rates declined for the 6th year in a row, reaching 12% in 2016.)

There has been more new construction of commercial space over the last two years than in the previous 12 years combined.

**New Commercial Development**

By Sector

Silicon Valley

![New Commercial Development Chart](image)(New development of office space rose for the second year in a row, with more construction completed in 2016 than in any other year since 2001.)

5.48 million square feet of new Silicon Valley office space was completed in 2016.
Office space availability declined in 2016 by more than 800,000 square feet.

Asking rents for commercial office space increased by 10% in 2016, reaching $4.23 per square foot Full Service Gross.

Rental rates increased in 2016 for Silicon Valley office and industrial space, but decreased for R&D space (down 9.8% to $2.42).
Silicon Valley high school graduation rates and the share of students who meet UC/CSU requirements continued to increase as a whole, while varying significantly by race and ethnicity.

Eighth-grade math proficiency improved in 2016, reaching 54%.

A greater share of Silicon Valley and San Francisco households has access to a computer with internet connectivity than in the state or nation as a whole.

### WHY IS THIS IMPORTANT?

The future success of Silicon Valley’s knowledge-based economy depends on younger generations’ ability to prepare for and access higher education; it also depends on providing all residents with a fundamental requirement for 21st century life – robust, high-speed network connectivity.

High school graduation and dropout rates are an important measure of how well our region prepares its youth for future success. Preparation for postsecondary education can be measured by the proportion of Silicon Valley youth that complete high school and meet entrance requirements for the University of California (UC) or California State University (CSU). Educational achievement can also be measured by proficiency in math, which is correlated with later academic success. Breaking down high school graduation rates and the share meeting UC/CSU entrance requirements by race and ethnicity sheds light on the inequality of educational achievement in the region. And, whether the region’s residents have access to a computer with broadband internet connectivity is indicative of their ability to engage in the community, look for jobs, do homework, manage finances, interact with government, access a wide variety of resources, and conduct the business of everyday life.
High school graduation rates vary by race/ethnicity, with Asian students ten percentage points above the regional average.

Silicon Valley high school graduation rates increased by four percentage points between 2011 and 2015.

The share of Silicon Valley students meeting UC/CSU requirements increased since 2011 across all racial/ethnic groups.

54% of Silicon Valley high school graduates in 2015 met the UC/CSU entrance requirements.
of Silicon Valley eighth-graders are proficient in math.

Silicon Valley, San Francisco, and statewide eighth grade math proficiency levels increased between 2015 and 2016.

Math Proficiency
Share of Eighth-Graders Who Met or Exceeded the Standard in Math
Santa Clara & San Mateo Counties, San Francisco, and California

*Math proficiency data is not available for 2014. Note: Beginning with the 2013–14 school year, the California Assessment of Student Performance and Progress (CAASPP) became the new student assessment system in California, replacing the Standardized Testing and Reporting (STAR) system. Data Source: California Department of Education Analysis: Silicon Valley Institute for Regional Studies
12% of Silicon Valley households did not have broadband internet access in 2015; this share jumps to 33% for low-income households (earning <$35,000 annually).

Silicon Valley has a greater share of households with computers and broadband internet access than San Francisco, California, or the United States overall.
Preschool enrollment rates in Silicon Valley and San Francisco have increased over the past decade, and are much higher than in the state overall; the share of 3- and 4-year-olds enrolled who attend private preschools is larger as well, as is the percentage of third-graders who meet or exceed the standard in English Language Arts, though proficiency varies significantly by race/ethnicity.

**WHY IS THIS IMPORTANT?**

Early education provides the foundation for lifelong accomplishment. Research has shown that quality preschool-age education is vital to a child’s long-term success. Private versus public school enrollment illustrates the economic structure of our community when compared to California and the United States. And reading and writing abilities function as important indicators for a child’s future, as they are strongly correlated with continued academic achievement.

San Francisco preschool enrollment rates have gone up by 13 percentage points over the past decade, compared to much smaller increases in Silicon Valley, California, and the United States.

---

**Preschool Enrollment**

<table>
<thead>
<tr>
<th>Year</th>
<th>Silicon Valley</th>
<th>San Francisco</th>
<th>California</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>57%</td>
<td>58%</td>
<td>55%</td>
<td>56%</td>
</tr>
<tr>
<td>2007</td>
<td>55%</td>
<td>56%</td>
<td>54%</td>
<td>55%</td>
</tr>
<tr>
<td>2009</td>
<td>57%</td>
<td>59%</td>
<td>57%</td>
<td>57%</td>
</tr>
<tr>
<td>2011</td>
<td>60%</td>
<td>62%</td>
<td>60%</td>
<td>58%</td>
</tr>
<tr>
<td>2013</td>
<td>62%</td>
<td>67%</td>
<td>65%</td>
<td>60%</td>
</tr>
<tr>
<td>2015</td>
<td>67%</td>
<td>70%</td>
<td>67%</td>
<td>65%</td>
</tr>
</tbody>
</table>

Note: Data includes enrollment in private and public schools for children three to four years of age. | Data Source: United States Census Bureau, American Community Survey | Analysis: Silicon Valley Institute for Regional Studies
A greater share of Silicon Valley and San Francisco parents enroll their children in private preschool than in the state or the nation.

Third grade English language arts proficiency in Silicon Valley varies significantly by race/ethnicity, with Asian students having the highest share meeting or exceeding the standard.

Silicon Valley has a higher share of third-graders meeting or exceeding the English language arts standard than San Francisco or the state as a whole.
Silicon Valley and San Francisco residents spend more money on arts and culture consumption, and are more likely to attend movies, than those in many other regions across the United States. San Francisco institutions award a much greater number of visual and performing arts degrees than those in Silicon Valley.

WHY IS THIS IMPORTANT?

Arts and culture play an integral role in Silicon Valley’s economic and civic vibrancy. As both creative producers and employers, nonprofit arts and culture organizations are a reflection of regional diversity and quality of life. In attracting people to the area, generating business throughout the community and contributing to local revenues, these unique cultural activities have considerable local impact.

Going to the movies is one of the most popular ways that community members participate in the arts. Spending on arts and culture activities reflects the public’s interest, as well as the amount of money for which producers of the arts must compete. The share of households donating indicates how much the community values the arts and is willing to support it. And, higher education provides arts and culture interaction in a variety of ways, with campuses serving as an arts destination, through the community life of the faculty, and through student participation in local arts and culture activities.

San Mateo County residents spend more, on average, on arts and culture activities than Santa Clara County residents.

Data Source: Americans for the Arts | Analysis: Silicon Valley Institute for Regional Studies

Silicon Valley residents spend nearly $500 annually, on average, on admissions to entertainment venues such as theatres, stadiums, and concert halls.
The share of households donating to the arts declined between 2011 and 2014 in Santa Clara and San Mateo Counties, and in San Francisco.

**Arts Donations**
Share of Households Donating to Public Broadcasting or Arts
2011 & 2014

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santa Clara County</td>
<td>29.7%</td>
<td>28.1%</td>
</tr>
<tr>
<td>San Mateo County</td>
<td>34.1%</td>
<td>27.5%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>37.1%</td>
<td>34.9%</td>
</tr>
</tbody>
</table>

Note: 2011 data were collected in 2009-2011, and 2014 data were collected in 2012-2014. Data Source: Americans for the Arts; Scarborough Research | Analysis: Silicon Valley Institute for Regional Studies

The share of adults attending movies in San Mateo County declined between 2011 and 2014 from 62% to 55%.

More than half of Silicon Valley adults regularly go to the movies.

**Adult Population Share Attending Movies**
2011 & 2014

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santa Clara County</td>
<td>63%</td>
<td>57%</td>
</tr>
<tr>
<td>San Mateo County</td>
<td>61%</td>
<td>55%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>63%</td>
<td>58%</td>
</tr>
<tr>
<td>Alameda County</td>
<td>61%</td>
<td>55%</td>
</tr>
<tr>
<td>U.S. County Average</td>
<td>60%</td>
<td>57%</td>
</tr>
</tbody>
</table>

Note: 2011 data were collected in 2009-2011, and 2014 data were collected in 2012-2014. The share of adults who attend movies includes those surveyed who had seen a movie in the prior three months. Data Source: Americans for the Arts; Scarborough Research | Analysis: Silicon Valley Institute for Regional Studies

San Francisco institutions award seven times more visual and performing arts degrees than those in Santa Clara County, and 41 times more than those in San Mateo County.

Each year, more than 1% of San Francisco’s population is awarded some sort of visual or performing arts degree.

**Visual and Performing Arts Degrees**
Degrees Awarded per 100,000 Population

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2009</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alameda County</td>
<td>1,200</td>
<td>1,000</td>
<td>1,500</td>
</tr>
<tr>
<td>San Francisco</td>
<td>1,000</td>
<td>800</td>
<td>1,200</td>
</tr>
<tr>
<td>San Mateo County</td>
<td>500</td>
<td>400</td>
<td>600</td>
</tr>
<tr>
<td>Santa Clara County</td>
<td>1,000</td>
<td>800</td>
<td>1,200</td>
</tr>
<tr>
<td>U.S. County Average</td>
<td>1,000</td>
<td>800</td>
<td>1,200</td>
</tr>
</tbody>
</table>

Note: 2005 data were collected between 2002 and 2005, 2009 data were collected in 2006-2009, and 2013 data were collected in 2010-2013. Data Source: Americans for the Arts; United States Department of Education, National Center for Education Statistics | Analysis: Silicon Valley Institute for Regional Studies
The share of residents ages 18-64 covered by health insurance has continued to skyrocket in Silicon Valley, San Francisco, California, and across the nation, particularly for those who are unemployed.

The share of adults who are overweight or obese has increased over the past decade, and nearly one-third of Silicon Valley’s students are overweight or obese.

**WHY IS THIS IMPORTANT?**

Early and continued access to quality, affordable health care is important to ensure that Silicon Valley’s residents are thriving. Given the high cost of healthcare, individuals with health insurance are more likely to seek routine medical care and preventive health-screenings.

Being overweight or obese increases the risk of many diseases and health conditions, including Type 2 diabetes, hypertension, coronary heart disease, stroke and some types of cancers. These conditions decrease residents’ ability to participate in their communities, and have significant economic impacts on the nation’s health care system as well as the overall economy due to declines in productivity.

In 2015, 94% of Silicon Valley’s 18- to 64-year-olds were covered by health insurance.

59% of Silicon Valley adults are overweight or obese, compared to 50% in San Francisco and 63% in California.
Health insurance coverage for the working age population — particularly those who are unemployed — has increased significantly since 2013.

Nearly all of Silicon Valley’s residents over age 65 have health insurance coverage.

84% of Silicon Valley’s unemployed 18- to 64-year-olds had health insurance coverage in 2015.

A smaller share of Silicon Valley students (32%) are overweight or obese than in the state overall (38%).

Nearly ½ of Silicon Valley students are overweight or obese.

Between 2013 and 2015, the share of unemployed 18- to 64-year-olds with health insurance coverage in Silicon Valley jumped twenty percentage points.
Violent crime rates increased in 2015, while felony arrest rates declined – likely affected by the passage of California Proposition 47.

The number of Silicon Valley public safety officers reached nearly 5,500 in 2016.

**WHY IS THIS IMPORTANT?**

Public safety is an important indicator of societal health. The occurrence of crime erodes our sense of community by creating fear and instability, and poses an economic burden as well. The number of Silicon Valley public safety officers provides a unique window into the changing infrastructure of our city and county governments, and affects the public’s perception of safety.

*Silicon Valley’s violent crime rate increased by 4.3% in 2015, compared to an increase of 9.1% throughout the state.*

*The increase in Silicon Valley’s violent crime rate in 2015 was primarily due to aggravated assaults in San Mateo County and rapes in Santa Clara County.*

There were more than 7,000 violent crimes reported in Silicon Valley in 2015.

*87% of violent crimes in Silicon Valley are aggravated assault or robbery.*

In 2015, there were 113 more forcible rapes reported in Silicon Valley (reaching 848 reported) than were reported during the prior year.

### Violent Crimes

**Violent Crime Rate**

<table>
<thead>
<tr>
<th>Year</th>
<th>Silicon Valley</th>
<th>California</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>400</td>
<td>350</td>
</tr>
<tr>
<td>2014</td>
<td>350</td>
<td>300</td>
</tr>
<tr>
<td>2013</td>
<td>300</td>
<td>250</td>
</tr>
<tr>
<td>2012</td>
<td>250</td>
<td>200</td>
</tr>
<tr>
<td>2011</td>
<td>200</td>
<td>150</td>
</tr>
<tr>
<td>2010</td>
<td>150</td>
<td>100</td>
</tr>
<tr>
<td>2009</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>2008</td>
<td>50</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note: Violent crimes include homicide, forcible rape, robbery and aggravated assault. Data Source: California Department of Justice, California Department of Finance | Analysis: Silicon Valley Institute for Regional Studies*

### Breakdown of Violent Crimes, by Type

- **Aggravated Assault**: 54%
- **Robbery**: 33%
- **Forcible Rape**: 12%
- **Homicide**: 1%

*Data Source: California Department of Justice | Analysis: Silicon Valley Institute for Regional Studies*
Felony Offenses
Felony Offenses per 100,000 Adults & Juveniles
Santa Clara & San Mateo Counties, and California

Rates per 100,000 Adults and Juveniles

*2015 felony arrest rates were affected by the passage of Proposition 47, so caution is advised in comparing 2015 arrests to previous years. | Data Sources: California Department of Justice; United States Census Bureau | Analysis: Silicon Valley Institute for Regional Studies

Public Safety Officers
Total Number of Public Safety Officers
Silicon Valley

There are nearly 5,500 public safety officers in Silicon Valley.

Silicon Valley now has more public safety officers than in any other year over the past decade.

In 2016, Silicon Valley added nearly 600 public safety officers.

<table>
<thead>
<tr>
<th>Change in the Total Number of Silicon Valley Public Safety Officers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-2013</td>
</tr>
<tr>
<td>2013-2015</td>
</tr>
<tr>
<td>2015-2016</td>
</tr>
</tbody>
</table>

Data Source: California Commission on Peace Officer Standards and Training | Analysis: Silicon Valley Institute for Regional Studies
The region’s low for-sale inventory, combined with a growing need for more residential construction to accommodate population growth, has driven home prices up to near 2006 levels. Multi-family units continue to represent the majority of all newly permitted housing, but only a small share of recent housing permits were affordable for low-income residents. While median home prices have continued to rise, rental rates leveled off in 2016 and the burden of housing costs on Silicon Valley residents has declined slightly. However, the region’s housing shortage and high prices have led to increasing average household sizes and a larger share of the population living in multi-generational households.

WHY IS THIS IMPORTANT?

The housing market impacts a region’s economy and quality of life. An inadequate supply of new housing negatively affects prospects for job growth. A low for-sale inventory drives up prices. And a lack of affordable housing results in longer commutes, diminished productivity, curtailment of family time and increased traffic congestion. It also restricts the ability of crucial service providers—such as teachers, registered nurses and police officers—to live near the communities in which they work. Additionally, high housing costs can limit families’ ability to pay for basic needs, such as food, health care, and clothing, and can push residents to live with one another for economic reasons. As a region’s attractiveness increases, home sales, average home prices and rental rates tend to increase. Higher levels of new housing and attention to increasing housing affordability are critical to the economy and quality of life in Silicon Valley.

In 2016, the median sale price of a Silicon Valley home was $880,000, compared to $1.15 million in San Francisco, $425,000 statewide, and $241,000 nationwide.

Median inflation-adjusted home prices in Silicon Valley rose by 3.6% between 2015 and 2016 (an increase of nearly $31,000, compared to +3.3% in California as a whole).
Although the inventory of Silicon Valley houses listed for sale each month increased slightly between 2015 and 2016 (+3%), it remained relatively low at 2,350 homes.

There were an estimated 6,114 units included in 2016 Silicon Valley residential building permits – 500 fewer than the prior year, and more than 500 fewer than the recent peak in 2014.

The share of multi-family units in Silicon Valley residential building permits decreased slightly in 2016 to 66%, down from 68% in 2015.
Average household size in Silicon Valley – which should be decreasing as birth rates decline and an increasing share of the population is in older age groups that have smaller households – continued to rise in 2016.

There are an average of 2.98 people per household in Silicon Valley.

Since 2007, Silicon Valley has created a housing shortage of approximately 39,175 units that would be needed to accommodate the region’s growing population.
Building Affordable Housing
Affordable Units as a Percentage of Total Approved New Residential Units

Silicon Valley

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New affordable housing units</td>
<td>1,659</td>
<td>2,816</td>
<td>1,826</td>
<td>1,507</td>
<td>1,147</td>
<td>859</td>
<td>781</td>
<td>571</td>
<td>1,404</td>
<td>1,273</td>
<td>494</td>
<td>260</td>
<td>83</td>
<td>351</td>
<td>1,296</td>
<td>1,758</td>
<td>1,404</td>
</tr>
</tbody>
</table>

Note: Beginning in 2008, the Land Use Survey expanded its geographic definition of Silicon Valley to include cities northward along the U.S. 101 corridor (Brisbane, Burlingame, Millbrae, San Bruno and South San Francisco). In 2014, the Survey expanded to include all Silicon Valley cities (adding Colma, Daly City, Half Moon Bay and Pacifica). Data Source: City Planning and Housing Departments of Silicon Valley | Analysis: Silicon Valley Institute for Regional Studies

The share of newly approved residential units that are affordable fell to 7% in 2016.

Only 3% of newly approved units are affordable for very low income households (making <50% of the median area income).

Rental Affordability
Median Rental Rates
Santa Clara & San Mateo Counties, San Francisco, California, and the United States

Median Rent List Price (Inflation-Adjusted)

<table>
<thead>
<tr>
<th>Year</th>
<th>'11</th>
<th>'12</th>
<th>'13</th>
<th>'14</th>
<th>'15</th>
<th>'16*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon Valley</td>
<td>$3,888</td>
<td>$2,783</td>
<td>$2,090</td>
<td>$1,682</td>
<td>$3,888</td>
<td>$2,783</td>
</tr>
<tr>
<td>San Francisco</td>
<td>$4,696</td>
<td>$3,577</td>
<td>$2,277</td>
<td>$1,519</td>
<td>$3,888</td>
<td>$2,783</td>
</tr>
<tr>
<td>California</td>
<td>$5,000</td>
<td>$4,500</td>
<td>$4,000</td>
<td>$3,500</td>
<td>$3,000</td>
<td>$2,500</td>
</tr>
<tr>
<td>United States</td>
<td>$5,000</td>
<td>$4,500</td>
<td>$4,000</td>
<td>$3,500</td>
<td>$3,000</td>
<td>$2,500</td>
</tr>
</tbody>
</table>

*Based on data through October. Note: Median Apartment Rental Rates include multifamily complexes with five or more units. Data Source: Zillow Real Estate Research | Analysis: Silicon Valley Institute for Regional Studies

Rental rates are much higher in Silicon Valley and San Francisco than in California or the United States as a whole.

Median Silicon Valley apartment rental rates declined slightly (-2%) in 2016, reaching $2,783.
While the housing burden for Silicon Valley renters is relatively similar to that of the nation as a whole, the burden for Silicon Valley owners is higher (27% of Silicon Valley owners, compared to 22% across the country).

The share of Silicon Valley owners burdened by housing costs has declined by 10.5 percentage points over the past decade, while the share of renters burdened has remained the same (38%).

San Mateo County and San Francisco home affordability increased slightly in the first three quarters of 2016, while Santa Clara County and statewide home affordability decreased.

Only 29% of first-time homebuyers in San Mateo County can afford a median-priced home; this compares to 40% in Santa Clara County, 25% in San Francisco, and 51% statewide.

Data Source: United States Census Bureau, American Community Survey | Analysis: Silicon Valley Institute for Regional Studies

*2016 data reflects Q1-3 | Data Source: California Association of Realtors | Analysis: Silicon Valley Institute for Regional Studies

Data Source: United States Census Bureau, American Community Survey | Analysis: Silicon Valley Institute for Regional Studies

*2016 data reflects Q1-3 | Data Source: California Association of Realtors | Analysis: Silicon Valley Institute for Regional Studies
Silicon Valley has a higher share of residents living in multigenerational households than San Francisco or the state as a whole.

26% of all Silicon Valley residents live in multigenerational households (amounting to 17% of all households).

36% of all Silicon Valley young adults (ages 18-34) live with their parent(s).

The share of young adults living with their parents has increased from 32% in 2010 to 36% in 2015.
Over the past decade, the region’s commuters have been driving fewer miles each, a smaller share are driving to work alone, and more are taking public transit and using alternative modes such as bicycling to work. Despite these changes, the growing total number of commuters has caused commute times to rise by nearly 17%, contributing to the additional 35 hours per commuter per year of driving time.

**WHY IS THIS IMPORTANT?**

Adequate highway capacity and improved transportation options are important for the mobility of people and goods as the economy expands. Investments in public transportation, walking and bicycling infrastructure, along with improving automobile fuel efficiency and shifting from fossil fuels to electric vehicles, are important for meeting air quality and carbon emission reduction goals. Further, creating safe conditions for active modes of transportation, such as biking and walking, are important for helping residents get around within the region as well as promoting healthy lifestyles and enhancing quality of life.
The share of commuters driving alone has declined by three percentage points over the past decade; however, because the total amount of commuters has gone up over that time, there are actually 140,000 more daily commuters driving alone to work in 2015 than there were in 2005.

**Means of Commute**

**Percentage of Workers**

**Santa Clara & San Mateo Counties**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0%</td>
<td>76%</td>
<td>75%</td>
<td>73%</td>
<td></td>
</tr>
<tr>
<td>2.0%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>4%</td>
</tr>
<tr>
<td>2.5%</td>
<td>11%</td>
<td>10%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>3.0%</td>
<td>4%</td>
<td>5%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>3.5%</td>
<td>5%</td>
<td>5%</td>
<td>6%</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Other Means includes taxicab, motorcycle, and other means not identified separately within the data distribution. | Data Source: United States Census Bureau, American Community Survey Analysis: Silicon Valley Institute for Regional Studies

**Mean Travel Time to Work**

**Minutes**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Santa Clara &amp; San Mateo Counties</td>
<td>23.9</td>
<td>24.4</td>
<td>27.9</td>
<td>16.9%</td>
<td></td>
</tr>
<tr>
<td>San Francisco</td>
<td>28.7</td>
<td>30.3</td>
<td>33.9</td>
<td>18.1%</td>
<td></td>
</tr>
<tr>
<td>California</td>
<td>27.0</td>
<td>26.9</td>
<td>28.9</td>
<td>7.0%</td>
<td></td>
</tr>
</tbody>
</table>

**Silicon Valley commute times have increased by 17% over the last decade, reaching an average of 56 minutes per commuter per day in 2015.**

**Commute time increases since 2005 have added an additional 35 hours of driving time per commuter annually (or 40 minutes weekly, assuming a 5-day workweek).**
Between 2005 and 2015, the share of Silicon Valley commuters who bike to work increased from 1% to 1.9%.

In 2015, Silicon Valley had nearly 50,000 daily bicycle commute trips utilizing the region’s roadways and other bicycle facilities.

<table>
<thead>
<tr>
<th>Bicycling</th>
<th>Number of Bicycle Commute Trips Per Day</th>
<th>Santa Clara &amp; San Mateo Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>21,611</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>34,470</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>49,467</td>
<td>% Change 2005-2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>129%</td>
</tr>
</tbody>
</table>

Out of 10,000 daily bicycle commuters in Silicon Valley, more than 400 experienced a collision in 2015 that resulted in some sort of injury.

In 2015, 16 Silicon Valley bicycle collisions resulted in a fatality, and another 60 resulted in severe injuries.

The majority of Silicon Valley cities and counties have a Bicycle Master Plan in place, in the planning stage, or in-progress.

<table>
<thead>
<tr>
<th>Annual Bicycle Collisions per 10,000 Daily Commuters</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Mateo County</td>
<td>448.76</td>
</tr>
<tr>
<td>Santa Clara County</td>
<td>424.33</td>
</tr>
</tbody>
</table>

Bicycle Collisions, by Severity
Santa Clara & San Mateo Counties | 2015

- Fatality: 16 (1%)
- Severe Injury: 60 (6%)
- Visible Injury: 555 (52%)
- Complaint of Pain Injury: 431 (41%)

Share of Jurisdictions with a Bicycle or Pedestrian Master Plan
Silicon Valley | 2016

- Bicycle: Complete 17%, Planned/In-Progress 44%
- Pedestrian: Complete 15%, Planned/In-Progress 32%

Note: Data includes all bicycle and pedestrian master plans less than five years old.

Data Source: Statewide Integrated Traffic Records System (SWITRS), Transportation Injury Mapping System (TIMS) | Analysis: Nelson\Nygaard Consulting Associates, Silicon Valley Institute for Regional Studies

Data Source: United States Census Bureau, American Community Survey | Analysis: Silicon Valley Institute for Regional Studies

Data Source: Statewide Integrated Traffic Records System (SWITRS), Transportation Injury Mapping System (TIMS) | Analysis: Nelson\Nygaard Consulting Associates, Silicon Valley Institute for Regional Studies

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Data Source: Statewide Integrated Traffic Records System (SWITRS), Transportation Injury Mapping System (TIMS) | Analysis: Nelson\Nygaard Consulting Associates, Silicon Valley Institute for Regional Studies
Silicon Valley has more than 1,000 miles of bike facilities, the majority (55%) of which are Class 2 (bike lanes).

In 2015, Silicon Valley commuters lost nearly 53,000 vehicle hours to traffic congestion every day.
On a typical weekday, there are more than 151,000 Silicon Valley residents commuting to San Francisco or Alameda County.

Despite an overall decline in public transit use, per capita ridership on Caltrain and ACE increased slightly in 2016 by 2.4% and 2.9%, respectively.

The number of rides per capita on public transit declined in 2016 by 2%, amounting to nearly 700,000 fewer rides than during the prior fiscal year.

**Transit Use**
Number of Rides per Capita on Regional Transportation Systems
Santa Clara & San Mateo Counties

Note: Transit data are in fiscal years | Data Sources: Altamont Corridor Express, Caltrain, SamTrans, Santa Clara Valley Transportation Authority, California Department of Finance | Analysis: Silicon Valley Institute for Regional Studies
Since 2005, the number of commuters from Alameda County into San Francisco increased by more than 51,000 people (+82%).

The number of commuters in/out of Silicon Valley has increased significantly over the past decade (up by 6% to 151% since 2005, depending on the commute path).

Change in Per Capita Transit Use, 2010-2016
San Mateo & Santa Clara Counties

<table>
<thead>
<tr>
<th>Transportation System</th>
<th>2010 per Capita Ridership</th>
<th>2016 per Capita Ridership</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santa Clara Valley Transportation Authority (VTA)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Service</td>
<td>16.69</td>
<td>15.93</td>
<td>-4.6%</td>
</tr>
<tr>
<td>Express Bus Service</td>
<td>0.38</td>
<td>0.53</td>
<td>+39.9%</td>
</tr>
<tr>
<td>SamTrans</td>
<td>5.57</td>
<td>4.75</td>
<td>-14.8%</td>
</tr>
<tr>
<td>Caltrain</td>
<td>4.79</td>
<td>7.14</td>
<td>+49.1%</td>
</tr>
<tr>
<td>Altamont Corridor Express (ACE)</td>
<td>0.27</td>
<td>0.47</td>
<td>+76.5%</td>
</tr>
<tr>
<td>Total</td>
<td>27.32</td>
<td>28.29</td>
<td>+3.5%</td>
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Since 2010 – the beginning of the economic recovery period – VTA Express Bus Service, Caltrain, and ACE per capita ridership have increased by 40%, 49%, and 77%, respectively.

42% of commuters living in San Mateo County work in a different county.

Over the past decade, the number of people commuting from San Francisco to Santa Clara County has increased by 151%.
The density of newly approved residential development throughout Silicon Valley – as well as the total number of units approved near transit – shot up as the region moves toward more densely packed, mixed-use developments. Net non-residential development approvals remained extremely high, and consisted of mostly new office space construction combined with demolition of primarily light industrial and commercial space.

**WHY IS THIS IMPORTANT?**

By directing growth to already developed areas, local jurisdictions can reinvest in existing neighborhoods, increase access to transportation systems, and preserve the character of adjacent rural communities while reducing vehicle miles traveled and associated greenhouse gas emissions. Focusing new commercial and residential developments near rail stations and major bus corridors reinforces the creation of compact, walking distance, mixed-use communities linked by transit. This helps to reduce traffic congestion on freeways, preserve open space near urbanized areas, and improve energy efficiency. By creating mixed-use communities, Silicon Valley gives workers alternatives to driving and increases access to workplaces.

Net non-residential development approvals (after planned demolition) in FY 2015-16 totaled nearly 10.1 million square feet – 46% of which was within 1/3 of a mile of rail stations or major bus corridors.

Approved non-residential development projects were spread throughout Silicon Valley, with pockets of significant development planned in Foster City (with the continued expansion of Gilead Sciences), Fremont (including hotel, commercial, office, and light industrial development as part of the Warm Springs Area 3 Master Plan), Milpitas (including the 800,000-square-foot McCarthy Creekside industrial development), Mountain View (with several developments, including a new El Camino Hospital building), San Jose (with >1 million square feet of office and retail space near the Diridon Station area), Santa Clara (including the expansion of Valley Fair Mall, and >2 million square feet of office and retail as part of the Santa Clara Square development), and Sunnyvale (with 1.65 million square feet of office space in the Moffett Towers II project).

### Residential Density

**Average Units per Acre of Newly Approved Residential Development**

**Silicon Valley**

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<td>Units</td>
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<td>20</td>
<td>21</td>
<td>19</td>
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Note: Beginning in 2008, the Land Use Survey expanded its geographic definition of Silicon Valley to include cities northward along the U.S. 101 corridor (Brisbane, Burlingame, Millbrae, San Bruno and South San Francisco). In 2014, the survey expanded to include all Silicon Valley cities (adding Colma, Daly City, Half Moon Bay and Pacifica). | Data Source: City Planning and Housing Departments of Silicon Valley | Analysis: Silicon Valley Institute for Regional Studies

Residential density shot up to 24 dwelling units per acre in FY 2015-16 – five more than in the prior fiscal year, and nine more than the recent low of 15 dwelling units per acre in 2011.
There has been more non-residential development approved over the past three years (33.3 million square feet) than over the previous eight years combined.

Non-Residential Development
Net Non-Residential Development Approved, by Proximity to Transit

Silicon Valley

- Net Square Feet of Non-Residential Development Near Transit
- Net Square Feet of Non-Residential Development Further than 1/3 of a Mile from Transit

- Millions of Square Feet

*Beginning in 2012, the definition of transit oriented development has been changed from 1/4 mile to 1/3 mile. Note: Beginning in 2008, the Land Use Survey expanded its geographic definition of Silicon Valley to include cities northward along the U.S. 101 corridor (Brisbane, Burlingame, Millbrae, San Bruno and South San Francisco). Data Source: City Planning and Housing Departments of Silicon Valley. Analysis: Silicon Valley Institute for Regional Studies

There have been an increasing number of residential units in the pipeline since 2013 – the majority of which are within walking distance of major transit.

Silicon Valley cities approved more than 11,000 new housing units near transit in FY 2015-16, representing 60% of all newly approved residential units.

Light industrial space is making way for a disproportionate amount of office development.

Non-Residential Development
Share of Non-Residential Demolition and Development Approvals, by Type FY 2015-16

Silicon Valley

- Light Industrial
- Commercial
- Office
- Institutional

- Share of Planned Demolition
- Share of Non-Residential Development Approvals

*Beginning in 2012, the definition of transit oriented development has been changed from 1/4 mile to 1/3 mile. Note: Beginning in 2008, the Land Use Survey expanded its geographic definition of Silicon Valley to include cities northward along the U.S. 101 corridor (Brisbane, Burlingame, Millbrae, San Bruno and South San Francisco). Data Source: City Planning and Housing Departments of Silicon Valley. Analysis: Silicon Valley Institute for Regional Studies
Water consumption has declined significantly over the past several years, while the recycled share of total water used has continued to grow. Electricity productivity continued a six-year upward trend, as total electricity consumption per capita has fallen and the region continued to install more solar photovoltaic systems – particularly in the residential sector. Adoption of electric vehicles (EVs) is on the rise and Silicon Valley continues to represent a large share of the state’s public EV infrastructure.

**WHY IS THIS IMPORTANT?**

Environmental quality directly affects the health and well-being of all residents as well as the Silicon Valley ecosystem. The environment is affected by the choices that residents make about how to live, how to get to work, how to purchase goods and services, where to build homes, our level of consumption of natural resources, and how to protect our environmental resources.

Energy consumption impacts the environment through the emission of greenhouse gases (GHGs) and atmospheric pollutants from fossil fuel combustion. Sustainable energy policies include increasing energy efficiency and the use of clean renewable energy sources. For example, more widespread use of solar generated power diversifies the region’s electricity portfolio, increases the share of reliable and renewable electricity, and reduces GHGs and other harmful emissions. Electricity productivity is a measure of the degree to which the region’s production of economic value is linked to its electricity consumption, where a higher value indicates greater economic output per unit of electricity consumed.

Water consumption and use of recycled water are particularly important indicators given California’s recent drought conditions. Electric vehicle infrastructure and adoption provide indicators on the extent to which Silicon Valley residents are utilizing a cleaner transportation alternative to fossil fuel combustion. Comparing infrastructure and adoption to statewide statistics provides a look at the region’s leadership on electric transportation.

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1. Studies have quantified the importance of the ecosystem services provided by the region’s natural capital to the health of the economy including clean air, water quality and supply, healthy food, recreation, storm and flood protection, tourism, science and education. Healthy Lands & Healthy Economies: Nature’s Value in Santa Clara County (Open Space Authority and Earth Economics, 2014) found that each year, Santa Clara County’s natural and working lands provide a stream of ecosystem services to people and the local economy that range in value from $1.6 billion to $3.9 billion.
Silicon Valley electricity productivity increased by 5% each year between 2012 and 2015.

Electricity productivity increased more rapidly in Silicon Valley than in San Francisco or the rest of the state between 2014 and 2015.

Silicon Valley electricity consumption per capita has declined by 10% since 2008, but remains higher than in San Francisco and the rest of California.
In 2016, there were more than 8,300 solar installations in Silicon Valley, 99% of which were residential systems.

There are more than 43,000 solar PV systems on residential rooftops throughout Silicon Valley.

The amount of solar PV installed in Silicon Valley has more than doubled over the past four years, reaching a cumulative installed solar capacity of 332 megawatts in 2016.

More than 13% of California’s EV charging outlets are in Silicon Valley.

Over the past two years, Silicon Valley has increased the number of public EV charging outlets by 67%.
Nearly 20% of all 2010-2016 California electric vehicle rebates have been for Silicon Valley drivers.

A total of 33,000 electric vehicle rebates have been provided to Silicon Valley EV owners since the start of the rebate program.

Nissans, Chevrolets, and Teslas account for 62% of all Silicon Valley electric vehicles.
Silicon Valley city revenue gains outweighed additional expenses in FY 2014-15, and revenues amounted to $428 million more than total expenses. Investment earnings continued to comprise a very small share of total Silicon Valley city revenues.

**WHY IS THIS IMPORTANT?**

Many factors influence local government’s ability to govern effectively, including the availability and management of resources. To maintain service levels and respond to a changing environment, local government revenue must be reliable.

Property tax revenue is the most stable source of city government revenue, fluctuating much less over time than other sources, such as sales and other taxes. Since property tax revenue represents less than a quarter of all revenue, other revenue streams are critical in determining the overall volatility of local government funding.

Silicon Valley city revenue gains outweighed additional expenses in FY 2014-15 – revenues increased by 2.6% after inflation-adjustment (+$150 million), while expenses only increased by 1.2% (+$66 million).

Investment earnings continued to provide a very small share of city revenues, representing only 1% regionally.
Silicon Valley city revenues were $428 million more than total expenses in FY 2014-15.
The share of Silicon Valley voters registered as Republican continued to decrease, as more residents chose to register with no political party preference. A majority of Silicon Valley and California voters participates via absentee ballot; and, although eligible voter turnout is highest among Silicon Valley’s eldest residents, young adult voters were highly mobilized in the 2016 general election compared to 2012. Nearly three quarters of Silicon Valley voters cast their ballots for Hillary Clinton in the 2016 Presidential race.

**WHY IS THIS IMPORTANT?**

An engaged citizenry shares in the responsibility to advance the common good, is committed to place, and holds a level of trust in community institutions. Voter participation is an indicator of civic engagement and reflects community members’ commitment to a democratic system, confidence in political institutions and optimism about the ability of individuals to affect decision-making.

72% of Silicon Valley voters cast absentee ballots in the 2016 primary and general elections.

The same share of eligible voters cast ballots in the 2016 General Election as did in the 2008 General Election (62% in Silicon Valley and 59% in California).

**Voter Participation**

Percentage of Eligible Voters Who Casted Ballots and Absentee Ballots in General Elections

Silicon Valley and California

Data Source: California Secretary of State, Elections Division | Analysis: Silicon Valley Institute for Regional Studies
The percentage of registered voters with no political party affiliation continued to increase, while the share registered as Republicans decreased in Silicon Valley and statewide.

Partisan Affiliation
Percentage of Registered Voters, by Political Party
Santa Clara & San Mateo Counties, and California

Data Source: California Secretary of State, Elections Division | Analysis: Silicon Valley Institute for Regional Studies
Voter turnout of young adults (ages 18-24) in Silicon Valley, San Francisco, and statewide is low compared to other age groups.

Eligible voter turnout in Silicon Valley and San Francisco is higher than in the state overall.

Nearly 14,000 more Silicon Valley young adults voted in the 2016 general election than in the 2012 general election.

Young adults across the state were highly mobilized to vote in the 2016 general election.
74% of Silicon Valley voters cast their votes for Hillary Clinton for president, compared to 62% statewide.
APPENDIX A

PROFILE OF SILICON VALLEY

AREA

Land Area includes Santa Clara and San Mateo counties, Fremont, Newark, Union City, and Scotts Valley. Land Area data (except for Scotts Valley) is from the U.S. Census Bureau: State and County QuickFacts. Land area is based on current information in the TIGER® database, calculated for use with Census 2010. Scotts Valley data is from the Scotts Valley Chamber of Commerce.

POPULATION

Data for the Silicon Valley population comes from the E-1 City/County Population Estimates with Annual Percent Change report by the California Department of Finance and are for Silicon Valley cities. Population estimates are for January 2016.

JOBS

The total number of jobs in the city-defined Silicon Valley region for Q2 of 2016 was estimated by BW Research using Q1 2016 United States Bureau of Labor Statistics Quarterly Census of Employment and Wages data and Q2 2016 reported growth, modified slightly by Chmura Economics & Analytics JobEQ platform, which removes suppressions and reorganizes public sector employment.

AVERAGE ANNUAL EARNINGS

Average Annual Earnings for Silicon Valley was calculated by BW Research using data from the United States Bureau of Labor Statistics Quarterly Census of Employment and Wages, and modified slightly by EMSE (which removes suppressions and reorganizes public sector employment). Data for Silicon Valley includes San Mateo and Santa Clara Counties, and the Cities of Fremont, Newark, Scotts Valley, and Union City. Earnings include wages and supplements.

FOREIGN IMMIGRATION AND DOMESTIC MIGRATION

Data are from the California Department of Finance E-2 and E-6 Population Estimates and Components of Change, and are for San Mateo and Santa Clara Counties. Estimates for 2016 are preliminary. Net migration includes all legal and unauthorized foreign immigrants, residents who left the state to live abroad, and the balance of hundreds of thousands of people moving to and from California from within the United States.

TALENT FLOWS AND DIVERSITY

Components of Population Change; Population and Percent Change; Net Migration Flows

Data are from the California Department of Finance E-2 and E-6 Population Estimates and Components of Change, and are for San Mateo and Santa Clara Counties. Estimates for 2016 are preliminary. Net migration includes all legal and unauthorized foreign immigrants, residents who left the state to live abroad, and the balance of hundreds of thousands of people moving to and from California from within the United States.

AGE DISTRIBUTION

Data are from the United States Census Bureau, 2015 American Community Survey, 1-year estimates. Silicon Valley data are for Santa Clara and San Mateo Counties.

Births

Data are from the California Department of Finance E-6 Population Estimates and Components of Change by County. Silicon Valley data are for San Mateo and Santa Clara Counties. Estimates for 2016 are preliminary.

Percentage of Adults, by Educational Attainment; Percentage of Adults with a Bachelor’s Degree or Higher by Race/Ethnicity

Data for adult educational attainment are for Santa Clara and San Mateo Counties and are from the United States Census Bureau, American Community Survey 1-Year Estimates. Data reflects the educational attainment of the population 25 years and over. Educational Attainment by Race/Ethnicity reflects adults whose highest degree received was either a bachelor’s degree or a graduate degree. Multiple and Other includes Two or More Races, Some Other Race Alone, Native Hawaiian and Other Pacific Islander Alone, and American Indian and Alaska Native Alone. Data for Native Hawaiian and Other Pacific Islander Alone were not available for Santa Clara County in 2005, 2010 or 2015, or for San Mateo County in 2015. Data for American Indian and Alaska Native Alone was not available for San Mateo County in 2005, or for San Mateo County in 2010 or 2015.

ADULT EDUCATIONAL ATTAINMENT

Data for adult educational attainment are for Santa Clara and San Mateo Counties and are derived from the United States Census Bureau, 2015 American Community Survey, 1-Year Estimates. Data reflects the educational attainment of the population 25 years and over. Percentages may not add up to 100% due to rounding.

ETHNIC COMPOSITION

Data are for Santa Clara and San Mateo Counties and are derived from the United States Census Bureau, 2015 American Community Survey, 1-year estimates. Multiple and Other includes Native Hawaiian and Other Pacific Islander Alone, Some Other Race Alone, American Indian and Alaska Native alone, and Two or More Races. Percentages may not add up to 100% due to rounding. White, Asian, and Black or African-American are non-Hispanic.

FOREIGN BORN

Data are for Santa Clara and San Mateo Counties and are derived from the United States Census Bureau, 2015 American Community Survey 1-Year estimates. The Foreign Born Population excludes those who were born at sea. Data for China includes Taiwan. Oceania includes American Samoa, Australia, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Federated States of Micronesia, Nauru, New Caledonia, New Zealand, Northern Mariana Islands, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, Wallis and Futuna. Percentages may not add up to 100% due to rounding.

PEOPLE

Total Science and Engineering Degrees Conferred; Share of Science and Engineering Degrees Conferred to Women

Data are from the National Center for Education Statistics. Regional data for the Silicon Valley includes the following post-secondary institutions: Menlo College, Cogswell Polytechnic College, University of San Francisco, University of California (Berkeley, Davis, Santa Cruz, and San Francisco), Santa Clara University, San Jose State University, San Francisco State University, Stanford University, Golden Gate University, and University of Phoenix - Bay Area Campus. The academic disciplines include: computer and information sciences, engineering, engineering-related technologies, biological sciences/life sciences, mathematics, physical sciences and science technologies. Data were analyzed based on 1st major and level of degree (bachelor’s, master’s or doctorate).

Percentage of the Total Population Who Are Foreign Born; Foreign Born Share of Employed Residents Over Age 16, by Occupational Category

Data for the Percentage of the Total Population Who Are Foreign Born are from the United States Census Bureau, 2015 American Community Survey, 1-year Estimates. Silicon Valley includes Santa Clara and San Mateo Counties. Data for the Foreign Born Share of Employed Residents Over Age 16, by Occupational Category are from the United States Census Bureau, 2015 American Community Survey Public Use Microdata, and include Santa Clara and San Mateo Counties. Foreign born residents do not include those who were Born Abroad of American Parent(s). Estimates for the foreign born share include employed residents over age 16 only.

Languages Other Than English Spoken at Home for the Population 5 Years and Over; Population Share That Speaks a Language at Home Other Than Exclusively English

Data for Silicon Valley include Santa Clara and San Mateo Counties, and are from the United States Census Bureau, American Community Survey 1-Year Estimates, for the population five years and over. French includes Patois, Creole, and Cajun. Spanish includes Spanish Creole. German includes other West Germanic languages.
APPENDIX A

ECONOMY

EMPLOYMENT

Number of Jobs with Percent Change over Prior Year

Data includes average annual employment estimates as of the second quarter for years 2007 through 2016 from the United States Bureau of Labor Statistics Quarterly Census of Employment and Wages, and includes the entire city-defined Silicon Valley region. Data for Q2 of 2016 was estimated at the industry level by BW Research using Q1 2016 QCEW data and updated based on Q2 2016 reported growth and totals, and modified slightly by Chmura Economics & Analytics JobsEQ platform, which removes suppressions and reorganizes public sector employment.

Relative Job Growth

Data is from the United States Bureau of Labor Statistics, Quarterly Census of Employment and Wages for Q2 2007, Q2 2010, Q2 2015 and Q2 2016. The total number of jobs for Q2 of 2016 was estimated by BW Research using Q1 2016 United States Bureau of Labor Statistics Quarterly Census of Employment and Wages data and Q2 2016 reported growth, modified slightly by Chmura Economics & Analytics JobsEQ platform, which removes suppressions and reorganizes public sector employment. Data for Silicon Valley includes Joint Venture’s city-defined region.

Share of Total Employment, by Major Areas of Economic Activity; Silicon Valley Major Areas of Economic Activity; Silicon Valley Employment Growth by Major Areas of Economic Activity

Data includes average annual employment estimates as of the second quarter for years 2007 through 2016 from the United States Bureau of Labor Statistics Quarterly Census of Employment and Wages, and includes the entire city-defined Silicon Valley region. Data for Q2 of 2016 was estimated at the industry level by BW Research using Q1 2016 QCEW data and updated based on Q2 2016 reported growth and totals, and modified slightly by Chmura Economics & Analytics JobsEQ platform, which removes suppressions and reorganizes public sector employment. Community Infrastructure & Services includes Healthcare & Social Services (including state and local government jobs); Retail; Accommodation & Food Services; Education (including state and local government jobs); Construction; Local Government Administration; Transportation; Banking & Financial Services; Arts, Entertainment & Recreation; Personal Services; Federal Government Administration; Nonprofits; Insurance Services; State Government Administration; Warehousing & Storage; and Utilities (including state and local government jobs). Innovation and Information Products & Services includes Computer Hardware Design & Manufacturing; Semiconductors & related Equipment Manufacturing; Internet & Information Services; Technical Research & Development (Include Life Sciences); Software; Telecommunications Manufacturing & Services; Instrument Manufacturing (Navigation, Measuring & Electromedical); Pharmaceutical (Life Sciences); Other Media & Broadcasting, including Publishing; Medical Devices (Life Sciences); Biotechnology (Life Sciences); and I.T. Repair Services. Business Infrastructure & Services includes Wholesale Trade; Personnel & Accounting Services; Administrative Services; Technical & Management Consulting Services; Facilities; Management Offices; Design, Architecture & Engineering Services; Goods Movement; Legal; Investment & Employer Insurance Services; and Marketing, Advertising & Public Relations. Other Manufacturing includes Primary & Fabricated Metal Manufacturing; Machinery & Related Equipment Manufacturing; Other Manufacturing; Transportation Manufacturing including Aerospace & Defense; Food & Beverage Manufacturing; Textiles, Apparel, Wood & Furniture Manufacturing; and Petroleum and Chemical Manufacturing (Not in Life Sciences).

Total Employment by Tier; Percent Change in Employment, by Tier; Percent of Total Employment by Tier

Employment by Tier data are from the U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW) and modified slightly by JobsEQ & EMSI to remove suppressions and reorganize public sector employment. 2016 data are estimates based on QCEW 2016-Q2 employment at the industry level using 2016 Q1 data, and updated based on 2016 Q2 reported growth and totals reported, and modified slightly by JobsEQ & EMSI. Occupational segmentation into tiers has been recently adopted by the California Employment Development Department (EDD), and implemented over the last several years by BW Research for regional occupational analysis. Occupational segmentation allows for the in-depth examination of the quality and quantity of jobs in a given economy. This occupational segmentation technique delineates the majority of occupations into one of three tiers. Tier 1 Occupations include managers (Chief Executives, Financial Managers, and Sales Managers), professional positions (Lawyers, Accountants, and Physicians) and highly-skilled technical occupations, such as Scientists, Computer Programmers, and Engineers, and are typically the highest-paying, highest-skilled occupations in the economy. Tier 2 Occupations include sales positions (Sales Representatives), teachers, and librarians, office and administrative positions (Accounting Clerks and Secretaries), and manufacturing, operations, and production positions (Assemblers, Electricians, and Machinists). They have historically provided the majority of employment opportunities and may be referred to as middle-wage, middle-skill positions. Tier 3 Occupations include protective services (Security Guards); food service and retail positions (Waiters, Cooks, and Cashiers); building and grounds cleaning positions (Janitors), and personal care positions (Home Health Aides and Child Care Workers). These occupations typically represent lower-skilled service positions with lower wages that require little formal training and/or education. In 2016, average wages (assuming a 40 hour work week for the entire year) were $57.93 per hour or approximately $120,500 per year for Tier 1 occupations, $27.36 per hour or approximately $56,900 per year for Tier 2 occupations, and $14.52 per hour or approximately $30,200 per year for Tier 3 occupations.

Monthly Unemployment Rate


Unemployed Residents’ Share of the Working Age Population

Data is for Santa Clara and San Mateo Counties, and is from the U.S. Census Bureau, American Community Survey, 1-Year Estimates. The data counts the number of unemployed persons, as well estimates the total population in each racial/ethnic category for residents 16 years of age and older. Other includes the categories Some Other Race and Two or More Races. Data for Two or More Races was not available for San Mateo County for 2007. White is non-Hispanic or Latino. Data are limited to the household population and exclude the population living in institutions, college dormitories, and other group quarters.

INCOME

Per Capita Personal Income

Per capita values are calculated using personal income data from the U.S. Department of Commerce, Bureau of Economic Analysis and population figures from the U.S. Census Bureau mid-year population estimates for 2010-2015 available as of March 2016. Silicon Valley data are for Santa Clara and San Mateo Counties. Personal income estimates for 2001 forward reflect the results of the comprehensive revision to the national income and product accounts (NIPAs) released in July 2013, which creates a temporary break in BEA’s time series for earlier years. All per capita income values have been inflation-adjusted and are reported in 2015 dollars, using the Bay Area consumer price index for all urban consumers from the Bureau of Labor Statistics for the Silicon Valley and San Francisco data, the California consumer price index for all urban consumers from the California Department of Finance for California data, and the U.S. city average consumer price index for all urban consumers from the Bureau of Labor Statistics for U.S. data.

Per Capita Income by Race & Ethnicity; Percent Change in Inflation-Adjusted Per Capita Income

Data for per Capita Income are from the United States Census Bureau American Community Survey 1-Year Estimates. All income values have been inflation-adjusted and are reported in 2015 dollars, using the Bay Area consumer price index for all urban consumers from the Bureau of Labor Statistics for the Silicon Valley and San Francisco data, the California consumer price index for all urban consumers from the California Department of Finance for California data, and the U.S. city average consumer price index for all urban consumers from the Bureau of Labor Statistics for U.S. data. Silicon Valley data includes Santa Clara and San Mateo Counties. Per capita income is the mean money income received computed for every man, woman, and child in a geographic area. It is derived by dividing the total income of all people 15 years old and over in is a geographic area by the total population in that area. Income is not collected for people under 15 years old even though these people are included in the denominator of per capita income. This measure is rounded to the nearest whole dollar. Money income includes amounts reported separately for wage or salary income; net self-employment income; interest, dividends, or net rental or royalty income or income from estates and trusts; Social Security or Railroad Retirement income; Supplemental Security Income (SSI); public assistance or welfare payments; retirement, survivor, or disability pensions; and all other income. Population data used to compute per capita values are from the United States Census Bureau, American Community Survey 1-Year Estimates. Multiple & Other includes Native Hawaiian & Other Pacific Islander Alone, American Indian & Alaska Native Alone, Some Other Race Alone and Two or More Races; White, Asian, Black or African American, Multiple & Other are non-Hispanic.

Median Household Income; Percent Change in Inflation-Adjusted Median Household Income


AVERAGE WAGES

Average wages are from the U.S. Bureau of Labor Statistics, QCEW Q1 data modified slightly by Chmura Economics & Analytics JobsEQ platform to take into account yearly changes in methodology and occupational classifications. Average wage data for San Mateo County exhibited an abnormally large increase between 2011 and 2012, which may be reflective of methodological changes in data collection. Wages have been inflation-adjusted and are reported in 2016 dollars, using the Bay Area consumer price index for all urban consumers from the
Change in the Number of Households by Income Category; Share of Households With Income Greater Than $150,000 Annually

Data for Distribution of Income and Housing Dynamics are from the U.S. Census Bureau 2015 American Community Survey. 1-Year Estimates. Income ranges are based on 2015 inflation-adjusted dollars. Silicon Valley data includes Santa Clara and San Mateo Counties. Income is the sum of the amounts reported separately for the following eight types of income: Wage or salary income; Net self-employment income; Interest, dividends, or rental income; Royalty income from estates and trusts; Public assistance or welfare payments; Retirement, survivor, or disability pensions; and All other income.

Individual Median Income, by Educational Attainment; Disparity in Median Income between Highest and Lowest Educational Attainment Levels

Data for Median Income by Educational Attainment are from the U.S. Census Bureau American Community Survey. 1-Year Estimates, and include the population 25 years and over with earnings. All income values have been inflation-adjusted and are reported in 2015 dollars, using the Bay Area consumer price index for all urban consumers from the Bureau of Labor Statistics for the Silicon Valley and San Francisco data, the California consumer price index for all urban consumers from the California Department of Finance for California data, and the U.S. city average consumer price index for all urban consumers from the Bureau of Labor Statistics for U.S. data. Silicon Valley data includes Santa Clara and San Mateo Counties.

Average Wages for Full-Time Workers, by Gender; Gender-Wage Disparity for Full-Time Workers

Data is from the United States Census Bureau, 2015 American Community Survey Public Use Microdata (PUMS), and includes all full-time (35 or more hours per week) workers over age 15 with earnings.

Free or Reduced Price School Meals

Data includes students ages 5-17 who have a primary or short-term enrollment in the school on Fall Census Day. Free and Reduced Meal Program (FRMP) information is submitted by schools to the Department of Education in January. The 2015-16 data are from the October 2015 data collection, and are certified as of March 24, 2016. Data for 2012-13 were revised on June 30, 2014. Data files include public school enrollment and the number of students eligible for free or reduced price meal programs. Data for Silicon Valley include Santa Clara and San Mateo Counties. A child’s family income must fall below 130% of the federal poverty guidelines ($31,525 for a family of four in 2015-2016) to qualify for free meals, or below 185% of the federal poverty guidelines ($48,865 for a family of four in 2015-2016) to qualify for reduced-cost meals. Students may be eligible for free or reduced price meals based on applying for the National School Lunch Program (NSLP), or who are determined to meet the same income eligibility criteria as the NSLP through their local schools, or their homeless, migrant, or foster youth in CalPAPDS, or those students “directly certified” as participating in California’s food stamp program. Years presented are the final year of a school year (e.g., 2013-2014 is shown as 2014). In school year 2012-2013, the California Department of Education changed its data collection methodology to utilize CalPAPDS (California Longitudinal Pupil Achievement Data System) student-level data rather than districts-provided data. The Non Public Schools (NPS) and adult students included in the CalPAPDS data were excluded from the analysis for consistency, because they were not included in past FRPM files. Because the 2012-2013 data had a large number of schools reporting enrollment and present eligible but not eligible student counts, counts were estimated by multiplying enrollments by the eligibility rate and rounding to the nearest whole number.

INNOVATION & ENTREPRENEURSHIP

Value Added Per Employee; Percent Change in Value Added Per Employee

Value added per employee is calculated as regional gross domestic product (GDP) divided by the total employment. GDP estimates the market value of all final goods and services. GDP and employment data are from Moody’s Economy.com estimates using historical data through 2015 and forecasts updated on 10/5/2015 (U.S. data), 11/2/2016 (California data) and 11/29/2016 (Silicon Valley and San Francisco). All GDP values have been inflation-adjusted and are reported in 2016 dollars, using the Bay Area consumer price index for all urban consumers from the Bureau of Labor Statistics, 2016 estimate based on first half data for the Silicon Valley and San Francisco data, the California consumer price index for all urban consumers from the California Department of Finance May Revision Forecast (April 2016) for California data, and the U.S. city average consumer price index for all urban consumers from the Bureau of Labor Statistics for U.S. data, 2016 estimate based on first half data. Silicon Valley data include Santa Clara and San Mateo Counties.

Patent Registrations; Patents Per Capita; Patent Registrations by Technology Area

Patent data is provided by the United States Patent and Trademark Office and consists of Utility patents granted by inventor. Geographic designation is given by the location of the first inventor named on the patent application. Silicon Valley patents include only those filed by residents of Silicon Valley. Other Includes: Teaching & Amusement Devices, Transportation/Vehicles, Motors, Engines and Pumps, Dispensing & Material Handling, Food, Plant & Animal Husbandry, Furniture & Receptacles, Apparel, Textiles & Fastenings, Body Adornment, Nuclear Technology, Ammunition & Weapons, Earth Working and Agricultural Machinery, Machine Elements or Mechanisms, and Superconducting Technology. The technology area categorization method was slightly modified in 2012, resulting in minor changes to the proportion of patents in each technology area relative to previous
years. Population estimates used to calculate the number of patents granted per 100,000 people were from the California Department of Finance, E-1: City/County Population Estimates with Annual Percent Change. Beginning in 2015, the USPTO stopped classifying patents in the United States Patent Classification (USPC) and began using the Cooperative Patent Classification (CPC), so some USPC codes were unavailable. In those cases, unofficial routing classifications were used in place of the missing USPC classifications. This process may create some minor inconsistencies between the 2015 and previous years’ data sourced by Technology Area.

**Venture Capital Investment; Top Venture Capital Deals of 2016**

Data are from the MoneyTree™ Report from PricewaterhouseCoopers and the National Venture Capital Association, using data from CB Insights (beginning with Q4 2015) and Thomson Reuters (prior to Q4 2015). Silicon Valley includes the city-defined region. All values have been inflation-adjusted and are reported in 2016 dollars, using the Bay Area consumer price index for all urban consumers from the Bureau of Labor Statistics, 2016 estimate based on first half data for the Silicon Valley and San Francisco data, the California consumer price index for all urban consumers from the California Department of Finance May Revision Forecast (April 2016) for California data, and the U.S. city average consumer price index for all urban consumers from the Bureau of Labor Statistics for U.S. data.

**Venture Capital by Industry**

Data are from the MoneyTree™ Report from PricewaterhouseCoopers and the National Venture Capital Association (with data from CB Insights). Greater Silicon Valley includes Northern California, the Bay Area, and the coastline. Industries included in the Moneytree report are defined as follows: Agriculture (all aspects of farming, including crop production and health, animal production and wellness, as well as machinery, products, and related activities), Automotive and Transportation (all elements of travel by air, automobile, train, trucking, and other forms of transportation; also addresses manufacturing, parts, and maintenance), Business Products and Services (All business needs and associated services: advertising, PR, HR, staffing, training recordskeeping, legal services, consulting, office supplies and furniture, information services, hardware, facilities, and more; also covers associated services like commercial printing, outsourcing, and packaging), Computer Hardware & Services (Physical computing devices and related services, though specifically not the software used on those machines; includes personal and business computers, networking equipment, leasing companies, peripherals, handsets, servers, supercomputers, gaming devices, and IT services), Consumer Products and Services (all goods and services for personal use, not Business or Industrial, including but not limited to: appliances, automotive services, rentals, consumer electronics, clothes, home furnishings, jewelry, pet products, tobacco, toys and games), Electronics (Concerned mainly with electronic components like chips, semiconductors, switches, motors, testing equipment, and scientific instruments; also related manufacturing services), Energy and Utilities (energy production, distribution, and storage, including fossil fuels, renewables, electric power companies, companies focused on energy efficiency, as well as companies researching new energy sources or technologies), Environmental Services & Equipment (companies that deal with repairing damage after an environmental event has occurred or aim to help limit the negative ecological impact of an event or company; this includes environmental and energy consulting, hazardous waste services, recycling, cleanup, and solid waste), Financial (companies dealing with wealth in any form, including but not limited to: accounting, banking, credit and collections, investments, online payments companies, and lending), Food & Beverages (food and drink of all kinds: retail and wholesale, fresh ingredients, prepared and canned items, and foodservice, but not restaurants - see Leisure; also includes food safety, flavoring and condiments, alcoholic products, and distribution), Healthcare (all aspects of medical care and wellness: diagnosis, drug development and distribution, medical products and facilities, healthcare plans, and alternative treatments and elective procedures), Industrial (equipment and facilities that are neither commercial nor residential/consumer and all related applications; mainly concerned with materials, facilities, heavy machinery, and construction), Internet (online applications, but not the hardware on which they are run nor the ISPs that make transactions possible; all commerce sites are included, as are webhosting services, browser software, online advertising, email, online communications platforms of all kinds, online learning, videos, and more), Leisure (in-person entertainment like movie theaters, casinos, lodging, restaurants of all kinds, sporting events, gyms, and recreation facilities), Traditional Media (all forms of non-Internet entertainment that is also not in-person - see Leisure; includes film, video, music, publishing, radio, and television), Metals & Mining (companies involved with extracting raw materials from the earth and their processing; larger categories contained herein include aluminum, coal, copper, diamonds and precious stones, precious metals, and steel; additionally the brokering and distribution of these items), Mobile & Telecommunications (communications companies and associated technologies, from originating categories like fiber optics, telecom equipment, infrastructure, towers, and RBSI systems to applications like mobile software, mobile commerce, and the telecommunication companies that facilitate communication over their networks), Non-Internet-Mobile Retail (brick-and-mortar retail locations of all kinds: clothes, electronics, appliances, physical media, grocery, office supplies, and every other item purchased in person that is not a leisure activity - see Leisure), Risk & Security (Security services and products that operate primarily in the physical world and encompass personal protective equipment, security and surveillance equipment, security guard companies, consultants, and more), and Non-Internet-Mobile Software (Software not covered under "Mobile" or "Internet". It can be hosted on a user's machine or accessed remotely and can be used for any application; in this category, the software itself is the user's primary concern, not the delivery method as in Internet and Mobile categories).

**Angel Investment**

Data is from Crunchbase and includes the entire city-defined Silicon Valley region, San Francisco, and California. The analysis includes disclosed financing data for Angel Deals (may include small VC or family funds or individuals, or may just be noted as an Angel round by the company itself), and seed stage investments that included at least one Angel investor. Angel Deals are typically pre-seed and are not necessarily tied to equity. Investment amounts have been inflation-adjusted and are reported in 2016 dollars, using the Bay Area consumer price index for all urban consumers from the Bureau of Labor Statistics, 2016 estimate based on first half data for the Silicon Valley and San Francisco data, and the California consumer price index for all urban consumers from the California Department of Finance May Revision Forecast (April 2016) for California data.

**Initial Public Offerings; U.S. IPO Pricings of International Companies, by Country**

Data is from Renaissance Capital. Locations are based on the corporate address provided to Renaissance Capital. Silicon Valley includes the city-defined region. Rest of California includes all of the state except Silicon Valley for 2007-2012, and all of the state except Silicon Valley and San Francisco for 2013-2016.

**Mergers & Acquisitions; Percentage of Merger & Acquisition Deals by Participation Type**

Data are from FactSet Research Systems, Inc. and are based on M&A Activity in Joint Venture’s ip code-defined Silicon Valley region. Transactions include full acquisitions, majority stakes, minority stakes, club deals and spinoffs. Silicon Valley and San Francisco deals include those involving one or more Silicon Valley or San Francisco company.

**Establishment Churn**

The National Establishment Time-Series (NETS) Database, prepared by Don Wells & Associates using Dun & Bradstreet establishment data, was sourced for establishment counts. NETS data reflect employment at establishment location in January of each year. Silicon Valley data include Santa Clara and San Mateo Counties. The 2014 NETS Database was released in December, 2016.

**Relative Growth of Firms Without Employees; Firms Without Employees; Percentage of Nonemployers by Industry**

Data for firms without employees are from the U.S. Census Bureau, which uses the term ‘nonemployers’. The Census defines nonemployers as a business that has no paid employees, has annual business receipts of $1,000 or more ($1 or more in the construction industries), and is subject to federal income taxes. Most nonemployers are self-employed individuals operating very small unincorporated businesses, which may or may not be the owner’s principal source of income. Silicon Valley data include Santa Clara and San Mateo Counties.

**COMMERCIAL SPACE**

**New Commercial Development; Change in Supply of Office Space; Commercial Vacancy; Commercial Rents**

Data is from JLL, and represents the end of each annual period unless otherwise noted. Commercial space includes Office, Industrial, and R&D space. The JLL inventory includes all development above $5,000 square feet, with the exception of Downtown Palo Alto and Downtown Mountain View. Silicon Valley data includes San Mateo County, Santa Clara County, and the City of Fremont. Average asking rents are “Full Service / Gross” (FSG), which is the monthly rental rate and includes common area maintenance fees, utility fees, and taxes/insurance fees. The vacancy rate is the amount of unoccupied space, and is calculated by dividing the direct and sublease vacant space by the building base. The vacancy rate does not include occupied spaces presently being offered on the market for sale or lease. The Change in Available Commercial Space only includes office space, and is calculated as the change between Q4 and Q4 of the prior year. Net absorption is the change in occupied space during a given time period. Average asking rents have been inflation-adjusted and are reported in 2016 dollars, using the Bay Area consumer price index for all urban consumers from the Bureau of Labor Statistics, 2016 estimate based on first half data.
APPENDIX A

PREPARING FOR ECONOMIC SUCCESS

High School Graduation and Dropout Rates; High School Graduation Rates; Share of Graduates Who Meet UC/CSU Entrance Requirements

Students meeting UC/CSU requirements includes all 12th grade graduates completing all courses required for University and/or California State University entrance. Ethnicities were determined by the California Department of Education. Any student ethnicity pools containing 10 or fewer students were excluded in order to protect student privacy. Multi/None includes both students of two or more races, and those who did not report their race. White, African-American and Filipino are Not Hispanic or Latino. Silicon Valley includes all students attending public high school in San Mateo and Santa Clara Counties, as well as those in Scotts Valley Unified School District, New Haven School District, Fremont Unified School District, and Newark Unified School District. Dropout and graduation rates are four-year adjusted rates. The adjusted rates are derived from the number of cohort members who earned a regular high school diploma (or dropped out) by the end of year 4 in the cohort divided by the number of first-time grade 9 students in year 1 (starting cohort) plus students who transfer in, minus students who transfer out, emigrate, or die during school years 1, 2, 3, and 4. Years presented are the final year of a school year (e.g., 2011-2012 is shown as 2012).

Math Proficiency

Data for 2015 and 2016 are from the California Department of Education, California Assessment of Student Performance and Progress (CAASPP). Beginning with the 2013–14 school year, CAASPP became the new student assessment system in California, replacing the Standardized Testing and Reporting (STAR) system. 2016 CAASPP test results were revised on December 15, 2016, and are from tests administered in 2016. The share of eighth-graders meeting or exceeding the standard includes students who have made progress and met or exceeded the grade standard, and who appear to be ready for future coursework. Data for 2006 through 2013 are from the California Department of Education, California Standards Tests (CST) Research Files for San Mateo and Santa Clara Counties, and California. In 2003, the CST replaced the Stanford Achievement Test, ninth edition (SAT-9). The CSTs in English-language arts, mathematics, science, and history-social science were administered only to students in California public schools. Except for a writing component that was administered as part of the grade four and grade seven English-language arts tests, all questions were multiple-choice. These tests were developed specifically to assess students’ knowledge of the California content standards. The State Board of Education adopted these standards, which specify what all children in California are expected to know and be able to do in each grade or course. Through the 2012-13 school year, the Algebra I CSTs were required for students who were enrolled in the grade/course at the time of testing or who had completed a course during the school year, including during the previous summer. In order to protect student confidentiality, no scores were reported in the CST research files for any group of ten or fewer students. The following types of scores are reported by grade level and content area for each school, district, county, and the state: % Advanced, % Proficient, % Basic, % Below Basic, and % Far Below Basic, and are rounded to the nearest one place.

Share of Households with a Computer and Broadband Internet Access

Data for Silicon Valley include Santa Clara and San Mateo Counties, and are from the United States Census Bureau, American Community Survey, 1-Year Estimates.

EARLY EDUCATION

Preschool Enrollment

Data for preschool enrollment are for San Mateo and Santa Clara Counties, California, and the United States. The data are from the United States Census Bureau, American Community Survey 1-Year Estimates. Percentages were calculated from the number of children ages three and four that are enrolled in either public or private school, and the number that are not enrolled in school.

English Language Arts Proficiency

Data are from the California Department of Education, California Assessment of Student Performance and Progress (CAASPP). Beginning with the 2013–14 school year, CAASPP became the new student assessment system in California, replacing the Standardized Testing and Reporting system (STAR). 2016 CAASPP test results were revised on December 15, 2016, and are from tests administered in 2016. The share of third-graders meeting or exceeding the standard includes students who have made progress and met or exceeded the grade standard, and who appear to be ready for future coursework.

ARTS & CULTURE

Consumer Expenditures; Share of Households Donating to Public Broadcasting or Arts; Adult Population Share Attending Movies; Visual and Performing Arts Degrees

Data are from the Americans for the Arts Local Index. Arts Donation data represents the share of all households that donate to arts and culture organizations, including public broadcasting. 2011 data was collected in 2009-2011, and 2014 data was collected in 2012-2014 by Scarborough Research. Consumer Expenditure data represents a per capita estimate of dollars to be spent in 2015 by county residents on admissions to entertainment venues – theaters, concert halls, clubs, arenas, outdoor amphitheaters, and stadiums. These estimates combine the most recent Consumer Expenditure Survey data with an annual modeling of spending patterns. Data for the share of adults attending movies was obtained by Scarborough Research through a survey. 2011 data were collected in 2009-2011, and 2014 data were collected in 2012-2014. Data includes those surveyed who saw a movie within the prior three months. The U.S. Average for the share of adults attending movies included approximately 500 counties. The number of visual and performing arts degrees awarded include associate’s, bachelor’s, master’s, and doctoral degrees. Data was obtained by Americans for the Arts from the United States Department of Education, National Center for Education Statistics. 2005 data were collected between 2002 and 2005, 2009 data were collected in 2006-2009, and 2013 data were collected in 2010-2013.

QUALITY OF HEALTH

Share of the Population Ages 18-64, with Health Insurance Coverage; Percentage of Individuals with Health Insurance, by Age & Employment Status; Change in the Percentage of Individuals with Health Insurance, by Age and Employment Status

Data for those with health insurance are from the U.S. Census Bureau, American Community Survey, 1-Year Estimates for the civilian non-institutionalized population. Silicon Valley data includes Santa Clara and San Mateo Counties.

Adults Overweight or Obese

Silicon Valley data include Santa Clara and San Mateo Counties. The California Health Interview Survey (CHIS) is conducted via telephone survey of more than 20,000 Californians across 58 counties each year. The data includes adults 18 years of age and older. Calculated using reported height and weight, a Body Mass Index (BMI) value of 25.0 – 29.99 is categorized as Overweight, and a BMI of 30.0 or greater is categorized as Obese. Starting in 2011, CHIS transitioned from a biennial survey model to a continuous survey model, which enables a more frequent (annual) release of data.

Students Overweight or Obese

Data are from the California Department of Education, Physical Fitness Testing Research Files, and include all public school students in 5th, 7th and 9th grades in San Mateo and Santa Clara Counties and California who were tested through the Fitnessgram assessment. In the 2013-14 school year, the performance standards changed for the Body Mass Index (BMI), one of the three body composition test options. The changes were made to better align with the well-established, health-related body fat standards from the Centers for Disease Control and Prevention (CDC).

SAFETY

Violent Crime Rate; Breakdown of Violent Crimes, by Type

Data is from the California Department of Justice, Office of the Attorney General, Interactive Crime Statistics. Violent Crimes include homicide, forcible rape, robbery and aggravated assault. Data for Silicon Valley includes the city-defined Silicon Valley region. Population data is from the California Department of Finance’s E-4 Population Estimates.

Felony Offenses

Data is from the California Department of Justice, Office of the Attorney General, Interactive Crime Statistics. Data for Silicon Valley includes San Mateo and Santa Clara Counties. Population data is from United States Census Bureau, 2007-2015 American Community Surveys, 1-Year Estimates. Felony offenses include Violent, Property Offenses, Drug Offenses, Sex Offenses, Weapons, Driving Under the Influence, Hit and Run, Escape, Bookmaking, Manslaughter Vehicular, and Other Felonies. Felony arrest data for 2015 may have been affected by the passage of Proposition 47 in November 2014 which reduced some felony offenses to misdemeanors, and so caution is advised in comparing 2015 data to previous years.

Public Safety Officers; Change in the Total Number of Silicon Valley Public Safety Officers

All data are from the California Commission on Peace Officer Standards and Training. The total number of Public Safety Officers accounts for all sworn full-time and reserve personnel, which may include (but is not limited to) Police Chiefs, Deputy Chiefs, Commanders, Corporals, Lieutenants, Sergeants, Police Officers, Detectives, Detention Officers/Supervisors, Sheriffs, Undersheriffs, Captains, and Assistant Sheriffs. It does not include Community Service Officers or other non- sworn (civilian) police department personnel. All city, county and school district departments in Silicon Valley are included. Data does not include California Highway Patrol officers. 2010 data were as of October 4, 2016.
APPENDIX A

HOUSING

Trends in Home Sales
Data are from CoreLogic. Silicon Valley includes Santa Clara and San Mateo Counties. Estimates have been inflation-adjusted and are reported in 2016 dollars, using the Bay Area consumer price index for all urban consumers from the Bureau of Labor Statistics, 2016 estimate based on first half data for the Silicon Valley data, and the California consumer price index for all urban consumers from the California Department of Finance May Revision Forecast (April 2016) for California data. Based on public property records, for transactions recorded in each period. Data reflect sales of all new and resale single-family detached houses and condos combined.

Housing Inventory
Data for Silicon Valley include Santa Clara and San Mateo Counties, and are from Zillow Real Estate Research. The Average Monthly For-Sale Inventory for 2016 includes January through October only. Average Monthly For-Sale Inventory represents an annual average of the monthly averages of median weekly snapshots of for-sale homes.

Residential Building
Data is from the Construction Industry Research Board and California Homebuilding Foundation, and includes Santa Clara and San Mateo Counties. Data includes the number of single family and multi-family units included in building permits issued between 1998 and November 2016. Single-Family housing units include detached, semi-detached, row house and town house units. Multi-family housing includes duplexes, 3-4 unit structures and apartment type structures with five units or more.

Regional Housing Need Allocation (RHNA); Progress Toward 2015-2023 RHNA
Data are from the Association of Bay Area Governments (ABAG), and were compiled primarily from the permitting information sent to ABAG by local planning staff. In certain instances, when permit data was not available, data from 2015 Annual Housing Element Progress Reports (AHPs) filed by jurisdictions with the California Department of Housing and Community Development (HCD) was used. All jurisdictions had the opportunity to review the final report. Given that the calendar year 2014 is in-between the 2007-14 and the 2015-2023 RHNA cycles, HCD provides Bay Area jurisdictions with the option of counting the units they permitted in 2014 towards either the past (2007-2014) or the current (2015-2023) RHNA cycle. ABAG only included 2014 permitting information for jurisdictions that requested that their 2014 permits be counted towards their 2015-2023 allocation. In Silicon Valley, those jurisdictions include Foster City, Portola Valley, Los Gatos, and San Jose. In the rest of the Bay Area, those jurisdictions include Emeryville, Pleasanton, Concord, Moraga, Oakland, Contra Costa County, Mill Valley, Tiburon, Marin County, American Canyon, Calistoga, and Petaluma. The Regional Housing Need Allocation (RHNA) is the state-mandated process to identify the total number of housing units (by affordability level) that each jurisdiction must accommodate in its Housing Element. AMI stands for Area Median Income. Silicon Valley data include Santa Clara and San Mateo Counties, and the cities of Fremont, Union City, and Newark. Affordability levels indicated on the chart include Very Low Income (0-50% of the Area Median Income, AMI), Low Income (50-80% AMI), Moderate Income (80-120% AMI), and Above Moderate Income (120%+ AMI).

Average Household Size & Additional Units Needed to Accommodate Population Growth
Data for average household size and number of households are from the California Department of Finance, E-5 Population and Housing Estimates. Data for residential units in building permits issued are from the Construction Industry Research Board and California Homebuilding Foundation. Silicon Valley data includes Santa Clara & San Mateo Counties. Additional Units Needed to Accommodate Population Growth are calculated as the Households Needed to Accommodate Growth minus the Number of Residential Units in Building Permits Issued. Households Needed to Accommodate Growth are calculated as the change in population (using data from the California Department of Finance, E-4 Population Estimates for January 1 of each year) divided by the average household size from that year. The 2016 estimate of residential units in building permits issued is based on data through November.

Building Affordable Housing
Data are from joint Venture Silicon Valley’s annual land-use survey of all cities within Silicon Valley. The 32 cities/counties included in the FY 2015-16 Building Affordable Housing analysis included Atherton, Belmont, Brisbane, Burlingame, Colma, Cupertino, Daly City, East Palo Alto, Foster City, Fremont, Gilroy, Hillborough, Los Altos, Los Altos Hills, Los Gatos, Millbrae, Milpitas, Mountain View, Newark, Pacifica, Palo Alto, Portola Valley, Redwood City, San Bruno, San Jose, San Mateo, San Mateo County, Santa Clara, Santa Clara County, Sunnyvale, South San Francisco, and Sunnyvale. Most recent data are for fiscal year 2016 (July 2015-June 2016). Affordable units are those units that are affordable for a four-person family earning up to 80 percent of the median income for a county. Cities use the U.S. Department of Housing and Urban Development’s (HUD) estimates of median income to calculate the number of units affordable to low-income households in their jurisdiction.

Rental Affordability
Data for Median Rent List Price is from Zillow Real Estate Research (data downloaded January 11, 2017). Median Apartment Rental Rates include multifamily complexes with five or more units. Some data for specific rental types were not available for the full year of 2011 or 2012. Rental rates for 2016 are based on data through October. Rental rates have been rounded to the nearest dollar, and have been inflation-adjusted and are reported in 2016 dollars, using the Bay Area consumer price index for all urban consumers from the Bureau of Labor Statistics, 2016 estimate based on first half data for the Silicon Valley and San Francisco data, the California consumer price index for all urban consumers from the California Department of Finance May Revision Forecast (April 2016) for California data, and the U.S. city average consumer price index for all urban consumers from the Bureau of Labor Statistics for U.S. data, 2016 estimate based on first half-data. Silicon Valley Median Rent was estimated using a weighted average of Santa Clara and San Mateo County rental rates, using population data from the California Department of Finance.

Housing Burden
Data for owners’ and renters’ housing costs are from the United States Census Bureau, American Community Survey 1-Year Estimates. This indicator measures the share of owners and renters spending 35% or more of their monthly household income on housing costs. Renters data are calculated percentages of gross rent to household income in the past 12 months. Owners data are calculated percentages of selected monthly owner costs to household income in the past 12 months. Owners data are solely based on housing units with a mortgage. According to the U.S. Department of Housing and Urban Development, housing costs greater than 30% of household income pose moderate to severe financial burdens.

Home Affordability
Data are from the California Association of Realtors’ (CAR) First-time Buyer Housing Affordability Index, which measures the percentage of households that can afford to purchase an entry-level home in California based on the median price of existing single family homes sold from CAR’s monthly existing home sales survey. Beginning in the first quarter of 2009, the Housing Affordability Index incorporates an effective interest rate that is based on the one-year, adjustable-rate mortgage from Freddie Mac’s Primary Mortgage Market Survey.

Multigenerational Households
Data are from the United States Census Bureau, American Community Survey 1-Year Estimates, using the University of Minnesota Population Center IPUMS for Silicon Valley and California, and from the Pew Research Center report by Fry & Pasel (July 2014) for the United States. Silicon Valley data includes Santa Clara and San Mateo Counties. The definition of multigenerational households used for this analysis goes beyond the Census Bureau’s traditional definition, and includes all households with two or more adult generations, where an adult is defined as age 25 and over. The definition is modeled after the methodology developed by the Pew Research Center, published in a report entitled “In Post-Recession Era, Young Adults Drive Continuing Rise in Multi-Generational Living” by Richard Fry and Jeffrey Pasel, July 2014. In the definition used, a multigenerational household includes those with two adult generations (a parent or parent-in-law and adult child/children), three generations (parent or parent-in-law, adult child/children, grandchildren), shifted generations (grandparents living with grandchildren where no parent is present), and more than three generations. Due to possible slight differences between the methodology used by the Pew Research Center and the Silicon Valley Institute for Regional Studies, caution should be used in comparing the Silicon Valley and California estimates to those for the United States as a whole.

Young Adults Living With a Parent
Data are from the United States Census Bureau, American Community Survey 1-Year Estimates, using the University of Minnesota Population Center IPUMS. Silicon Valley data includes Santa Clara and San Mateo Counties. Young Adults include residents ages 18 to 34, and only those who live with a parent who is the household holder (not including parents who live with their young adult children, where the child is the household holder).

TRANSPORTATION

Vehicle Miles Traveled per Capita and Gas Prices
Vehicle Miles Traveled (VMT) estimates the number of vehicle miles that motorists traveled on California roadways. Various roadway types are used to calculate VMT. Silicon Valley data include travel within Santa Clara and San Mateo Counties. Unlike earlier years, the 2014 and 2015 Highway Performance Monitoring System (HPMS) data do not include functional class 7 (local roads) or data from federal agencises. This change was due to the migration of the HPMS to a new Linear Referencing System (GIS layer). The California Department of Finance’s E-4 Population Estimates were used to compute per-capita values. Average annual gas prices are from the U.S. Energy Information Administration, and have been inflation-adjusted and are reported in 2015 dollars, using the California consumer price index for all urban consumers from the California Department of Finance May Revision Forecast (April 2016).

Means of Commute; Mean Travel Time to Work
Data on the means of commute to work are from the United States Census Bureau, American Community Surveys, 1-Year Estimates. Data are for workers 16 years old and over residing in Santa Clara and San Mateo Counties commuting to the geographic location at which workers carried out their occupational activities during the reference week whether or not the location was inside or outside the county limits. The data on employment status and journey to work relate to the reference week; that is, the calendar week preceding the date on which the respondents completed their questionnaires or were interviewed. This week is not the same for all respondents since the interviewing was conducted over a 12-month period. The occurrence of holidays during the relative
reference work could affect the data on actual hours worked during the reference week, but probably had no effect on overall measurement of employment status. People who used different means of transportation on different days of the week were asked to specify the one they used most often, that is, the greatest number of days. People who used more than one means of transportation to get to work each day were asked to report the one used for the longest distance during the work trip. The categories, "Drive Alone" and "Carpool" include workers using a car (including company cars but excluding taxis), a truck of one-ton capacity or less, or a van. The category "Public Transportation," includes workers who used a bus or trolley bus, streetcar or trolley car, subway or elevated, railroad, or ferryboat, even if each mode is not shown separately in the tabulation. The category "Other Means" includes taxis, motorcycle, and other means that are not identified separately within the data distribution.

Share of Commuters Who Bike to Work; Number of Bicycle Commute Trips Per Day

Data are from the United States Census Bureau, American Community Survey 1-Year Estimates, and include workers 16 years old and over residing in Santa Clara and San Mateo Counties commuting to the geographic location at which workers carried out their occupational activities during the reference week whether or not the location was inside or outside the county limits. The data on employment status and journey to work refer to the reference week; that is, the calendar week preceding the date on which the respondents completed their questionnaires or were interviewed. This week is not the same for all respondents since the interviewing was conducted over a 12-month period. The occurrence of holidays during the relative reference week could affect the data on actual hours worked during the reference week, but probably had no effect on overall measurement of employment status. Bicyclists include people who biked to work as their most common means of commute (the greatest number of days per week) and/or for the longest distance during the work trip (if they used more than one means of transportation to get to work each day). The number of commute trips is estimated as the number of commuters multiplied by two (assuming each commuter has one two-way commute).

Bicycle Collisions, by Severity; Annual Bicycle Collisions per 10,000 Daily Commuters

Data are from the Statewide Integrated Traffic Records System (SWITRS) via the Transportation Injury Mapping System (TIMIS), and only include those collisions in which an injury or fatality occurred.

Miles of Bicycle Facilities

Data are compiled from MTC, VTA, and Google Streets, and include Santa Clara and San Mateo Counties. Bicycle facility classes have been defined by Caltrans and include Class I (Shared Use Path), Class II (Bikeway), Class III (Bike Route/Boulevard), and Class IV (Protected Bikeway).

Share of Jurisdictions with a Bicycle or Pedestrian Master Plan

Data includes cities within the city-defined Silicon Valley region, and the Counties of Santa Clara and San Mateo. Data includes all bicycle and pedestrian master plans that are less than five years old (created in 2011 or thereafter) and were approved, planned or in-progress as of December 2016.

Daily Vehicle Hours of Delay Due To Congestion

Data are from Caltrans PeMS (Performance Monitoring System) that collect and archive traffic data from the Caltrans network of roadway traffic sensors. The reported traffic delay data are based on the detector coverage and health at the time that the data was collected by PeMS. Accordingly, actual traffic delays experienced in each county may be higher than those reported. Data includes California State Freeways only (not all state highways). Silicon Valley data include Santa Clara & San Mateo Counties. One vehicle hour of delay reflects one vehicle stuck in traffic for one hour. Delay refers to speeds less than 60 miles per hour.

Commute Patterns; Change in the Number of Cross-County Commuters; Share of Commuters Who Cross County Lines, by County of Residence

Data for Commute Patterns are from the United States Census Bureau, American Community Survey, 1-Year Public Use Microdata Samples (PUMS) using the Place of Work PUMA for San Francisco, San Mateo, Santa Clara and Alameda Counties. Workers include civilian residents over age 16 who were employed and at work. Cross-county commuters include those who do not work within their county of residence.

Transit Use; Change in Per Capita Transit Use

Estimates are the sum of annual ridership on the light rail and bus systems in Santa Clara and San Mateo Counties (from SamTrans and Santa Clara Valley Transportation Authority), and rides on Caltrain and Altamont Corridor Express (ACE). Data does not include paratransit, such as SamTrans’ Redi-Wheels program. The California Department of Finance E-4 Population Estimates were used to compute per-capita values.

LAND USE

Residential Density

Data are from Joint Venture Silicon Valley’s annual land-use survey of all cities within Silicon Valley. The 31 cities/counties included in the FY 2015-16 Residential Density analysis are Atherton, Belmont, Brisbane, Burlingame, Campbell, Colma, Cupertino, Daly City, East Palo Alto, Fremont, Gilroy, Los Altos, Los Gatos, Millbrae, Milpitas, Mountain View, Palo Alto, Redwood City, San Bruno, San Jose, San Mateo, San Mateo County, Santa Clara, Santa Clara County, South San Francisco, and Sunnyvale. Most recent data are for fiscal year 2016 (July 2015–June 2016). Residential density was calculated as the average residential density of the participating cities. Beginning in 2014, the residential density analysis began to exclude secondary units that were approved with the primary unit.

Housing Near Transit; Non-Residential Development

Data are from Joint Venture Silicon Valley’s annual land-use survey of all cities within Silicon Valley. The 24 cities/counties included in the FY 2015-16 Housing Near Transit analysis were Atherton, Belmont, Burlingame, Campbell, Colma, Cupertino, Daly City, East Palo Alto, Fremont, Gilroy, Los Altos, Los Gatos, Millbrae, Milpitas, Mountain View, Palo Alto, Redwood City, San Bruno, San Jose, San Mateo, San Mateo County, Santa Clara, South San Francisco, and Sunnyvale. Only cities containing rail stations or major bus corridors were included in the analysis for the share of housing near transit. Most recent data are for fiscal year 2016 (July 2015–June 2016). The number of new housing units and the square feet of commercial development within one-third mile of transit are reported separately for each of the cities and counties participating in the survey. Places with one-third of a mile of transit are considered “walkable” (i.e., within a 5- to 10-minute walk for the average person). Transit oriented data prior to 2012 is reported within one-quarter mile of transit. The 31 cities/counties included in the FY 2015-16 Non-Residential Development Approvals analysis were Atherton, Belmont, Brisbane, Burlingame, Campbell, Colma, Daly City, East Palo Alto, Foster City, Fremont, Gilroy, Hillsborough, Los Altos, Los Altos Hills, Los Gatos, Menlo Park, Millbrae, Milpitas, Monte Sereno, Mountain View, Newark, Pacifica, Palo Alto, Portola Valley, Redwood City, San Bruno, San Jose, San Mateo, Santa Clara, Santa Clara County, Saratoga, South San Francisco, and Sunnyvale.

ENVIRONMENT

Water Resources

Data for Santa Clara County was provided by Santa Clara Valley Water District (SCVWD). Scotts Valley Water District (SVWD) provided Scotts Valley data. Bay Area Water Supply & Conservation Agency (BAWSCA) provided data for member agencies serving San Mateo County and for Alameda County Water District, which services the Cities of Fremont, Union City and Newark. These agencies include Brisbane/CVMWD, Estero, Burlingame, Hillsborough, CWS - Bear Gulch, Mello Park, CWS - Mid Peninsula, Mid-Peninsula, CWS - South SE, Millbrae, Coastside, North Coast, Redwood City, Daly City, San Bruno, East Palo Alto, and Westborro. Cordilleras serves residents in San Mateo County, but is not a BAWSCA member and therefore was not included in this analysis. BAWSCA FY 2015-16 data is preliminary. Population figures used to calculate per capita values include the population served by each water agency, and are provided by the agencies directly. Total water consumption figures used to calculate per capita values and recycled percentage of total water used do not include consumption for agriculture or by private well owners in the SCVWD data. In the BAWSCA data, the small number of agricultural users in the service area are treated as a class of commercial user and are included in the consumption figures. Scotts Valley Water District does not serve agricultural customers, so total water consumption figures used to compute both the per capita consumption and the recycled percentage of total water used are the same.

Electricity Productivity; Electricity Consumption per Capita

Electricity Consumption data is from the California Energy Commission. Gross Domestic Product (GDP) data is from Moody’s Economy.com. GDP values have been inflation-adjusted and are reported in 2015 dollars, using the Bay Area consumer price index for all urban consumers from the Bureau of Labor Statistics for the Silicon Valley and San Francisco data, and the California consumer price index for all urban consumers from the California Department of Finance for California data. Silicon Valley data includes Santa Clara and San Mateo Counties. Per capita values were computed from the California Department of Finance’s E-4 Population Estimates.

Solar Installations

Data are from Palo Alto Municipal Utilities, Silicon Valley Power, and Pacific Gas & Electric, and include the entire city-defined Silicon Valley region. Years listed correspond to when the systems were interconnected. The category Non-Residential includes Commercial, Non-Profit, Government, Industrial, Utility, Military, and Education. CEC installs solar capacity does not include installations prior to 1999. All systems included in the analysis are Net Energy Metered and Non-Export PV. PG&E data is from the California Solar Statistics, which publishes all IOU solar PV net energy metering (NEM) interconnection data per CPUC Decision (D.11-11-001). 2016 data are through October for the municipal utility data, and through September for the PG&E data.

Electric Vehicle Infrastructure

Data are from the U.S. Department of Energy, and include public electric vehicle fueling stations and outlets in Santa Clara and San Mateo Counties, and California. 2016 data are as of December 6, 2016; 2015 data are as of November 20, 2015. 2014 data are as of November 14, 2014.

Electric Vehicle Adoption; Electric Vehicle Adoption, by Make

APPENDIX A

PLACEDITION

(PHEV), All-Battery Electric Vehicles (BEV), Fuel-Cell Electric Vehicles (FCEV), and other non-highway, motorcycle & commercial BEVs. The 2016 data is through September 30, 2016. The 2010 data begins on 3/18/10. Not all electric vehicles sold/leased in the state are captured in the database, since not every eligible vehicle owner applies to the CVRP; not every clean vehicle is eligible for the rebate; some vehicles were purchased before the rebate was available; and the rebate does not include PHEV retrofits (only new vehicles).

GOVERNANCE

CITY FINANCES

Revenues by Source, and Expenses; Revenues Minus Expenses
Data were obtained from 39 Silicon Valley cities’ audited annual financial reports, including Comprehensive Annual Financial Reports, Annual Financial Statements for the Year End, Annual Financial Reports, Basic Financial Statements Reports, and Annual Basic Financial Statements Reports, as well as the State of California annual year-end financial report from the California State Auditor. Data for City Finances include both Government and Business-Type Activities (where applicable). Whenever possible, data were obtained from the following year report (e.g., the 2010 report for 2009 figures) because following year reports sometimes reflect revisions/corrections. 2015 data was obtained from the Fiscal Year 2014-2015 reports. All amounts have been inflation-adjusted and are reported in 2015 dollars, using the Bay Area consumer price index for all urban consumers from the Bureau of Labor Statistics, 2015 estimate for the Silicon Valley data, and the California consumer price index for all urban consumers from the California Department of Finance May Revision Forecast (April 2016) for California data. Values are significant to the nearest $1 million due to rounding in the city and state reports. Revenues Minus Expenses is reported before transfers or extraordinary items. Other Revenues includes any revenue other than Property Tax, Sales Tax, Investment Earnings, or Charges for Services. Other Revenues includes the following (as categorized by the various cities in Silicon Valley): Incremental Property Taxes; Public Safety Sales Tax; Business tax; Municipal Water System Revenue; Waste Water Treatment Revenue; Storm Drain Revenue; Transient occupancy tax; Business, Hotel & Other Taxes; Property transfer tax; Property Taxes In-Lieu; Vehicle license in-lieu fees; Motor Vehicle In-Lieu; Licenses & Permits; Utility Users Tax; Development impact fees; Franchise fees; Franchise Taxes Franchise & Business Taxes; Rents & Royalties; Net Increase (decrease) in Fair Value of Investments; Equity in Income (losses) of Joint Ventures; Miscellaneous or Other Revenues; Cardroom Taxes; Fines and Forfeitures; Other Taxes; Agency Revenues; Interest Accrued from Advances to Business-Type Activities; Use of Money and Property; Property Transfer Taxes; Documentary Transfer Tax; Unrestricted/Intergovernmental Contributions in Lieu of Taxes; Gain (loss) of disposal of assets.

CIVIC ENGAGEMENT

Partisan Affiliation; Voter Participation
Data are from the California Secretary of State, Elections and Voter Information Division. The eligible population is determined by the Secretary of State using Census population data provided by the California Department of Finance. Silicon Valley includes Santa Clara and San Mateo counties. Other includes Green, Libertarian, Natural Law, Peace & Freedom/Reform, and Other.

Eligible Voter Turnout, by Age; Eligible Voter Turnout of Young Adults (Ages 18-24)
Eligible Voter Turnout by Age and Eligible Voter Turnout of Young Adults (Ages 18-24) is from the California Civic Engagement Project (CCEP) at U.C. Davis, using data from the Statewide Database (the Redistricting Database for the State of California) and California Department of Finance (for voting age population estimates), and is for the 2012 and 2016 General Elections. Silicon Valley includes Santa Clara and San Mateo Counties. Eligible voter turnout is defined as the percentage of adult citizens who voted.

Share of Votes, by Presidential Candidate
Data are from the California Secretary of State, Elections Division, and are for the 2016 General Election. Silicon Valley includes Santa Clara and San Mateo Counties. The Bay Area includes the 9-County region. Other includes Gloria Estela La Riva, Lawrence Kotlikoff, Mike Maturing, Evan McMullin, Bernard “Bernie” Sanders, and Jerry White.
<table>
<thead>
<tr>
<th>EMPLOYMENT</th>
<th>PERCENT OF TOTAL SILICON VALLEY EMPLOYMENT</th>
<th>PERCENT CHANGE</th>
</tr>
</thead>
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<td>TOTAL EMPLOYMENT</td>
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<td>PERSONAL SERVICES</td>
<td>15,897</td>
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<tr>
<td>FEDERAL GOVT. ADMINISTRATION</td>
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</tr>
<tr>
<td>NONPROFITS</td>
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<td>8,624</td>
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<td>FACILITIES</td>
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<td>TECHNICAL &amp; MANAGEMENT CONSULTING SERVICES</td>
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<td>MANAGEMENT OFFICES</td>
<td>26,184</td>
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<td>13,100</td>
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<td>LEGAL</td>
<td>10,979</td>
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<td>INVESTMENT &amp; EMPLOYER INSURANCE SERVICES</td>
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<td>MARKETING, ADVERTISING &amp; PUBLIC RELATIONS</td>
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<td>OTHER MANUFACTURING</td>
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<td>MACHINERY &amp; RELATED EQUIPMENT MANUFACTURING</td>
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<td>OTHER MANUFACTURING</td>
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<td>TRANSPORTATION MANUFACTURING INCLUDING AEROSPACE &amp; DEFENSE</td>
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<td>FOOD &amp; BEVERAGE MANUFACTURING</td>
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<tr>
<td>TEXTILES, APPAREL, WOOD &amp; FURNITURE MANUFACTURING</td>
<td>3,233</td>
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<tr>
<td>PETROLEUM AND CHEMICAL MANUFACTURING (NOT IN LIFE SCIENCES)</td>
<td>379</td>
<td>0.0%</td>
</tr>
<tr>
<td>OTHER</td>
<td>81,382</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

1. Includes government jobs (state and local).
2. Excludes government jobs in Healthcare & Social Services, Education, and Utilities.

Note: Table includes annual industry employment data for Silicon Valley from the United States Bureau of Labor Statistics Quarterly Census of Employment and Wages (QCEW) for 2007, 2010, 2015 and 2016, modified slightly by Chmura Economics & Analytics JobsEQ platform, which removes suppressions and reorganizes public sector employment. Data for Q2 of 2016 was estimated at the industry level by BW Research using Q1 2016 QCEW data and updated based on Q2 2016 reported growth and totals, and modified slightly by JobsEQ. Due to rounding, individual industry employment may not sum to industry group or overall job total.

Data Sources: U.S. Bureau of Labor Statistics Quarterly Census of Employment and Wages, JobsEQ
Analysis: BW Research
## APPENDIX B - San Francisco

<table>
<thead>
<tr>
<th>Category</th>
<th>Employment Q2 2016</th>
<th>Percent of Total San Francisco Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL EMPLOYMENT</td>
<td>700,264</td>
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<tr>
<td>COMMUNITY INFRASTRUCTURE &amp; SERVICES</td>
<td>401,575</td>
<td>57.3%</td>
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<tr>
<td>HEALTHCARE &amp; SOCIAL SERVICES(^1)</td>
<td>79,792</td>
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<tr>
<td>RETAIL</td>
<td>44,189</td>
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<tr>
<td>ACCOMMODATION &amp; FOOD SERVICES</td>
<td>80,438</td>
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<tr>
<td>EDUCATION(^1)</td>
<td>47,920</td>
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</tr>
<tr>
<td>CONSTRUCTION</td>
<td>19,148</td>
<td>2.7%</td>
</tr>
<tr>
<td>LOCAL GOVT. ADMINISTRATION(^1)</td>
<td>26,483</td>
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<tr>
<td>TRANSPORTATION</td>
<td>15,974</td>
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<td>BANKING &amp; FINANCIAL SERVICES</td>
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<td>2.4%</td>
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<tr>
<td>ARTS, ENTERTAINMENT &amp; RECREATION</td>
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<td>PERSONAL SERVICES</td>
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<td>COMPUTER HARDWARE DESIGN &amp; MANUFACTURING</td>
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<td>TECHNICAL RESEARCH &amp; DEVELOPMENT (INCLUDES LIFE SCIENCES)</td>
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<td>SOFTWARE</td>
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<td>FACILITIES</td>
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<td>PETROLEUM AND CHEMICAL MANUFACTURING (NOT IN LIFE SCIENCES)</td>
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</tr>
<tr>
<td>OTHER</td>
<td>40,880</td>
<td>5.8%</td>
</tr>
</tbody>
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ACKNOWLEDGMENTS

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Silicon Valley Institute for Regional Studies

Housed within Joint Venture, the Institute for Regional Studies provides research and analysis on Silicon Valley’s economy and society.