



# 2016 SILICON VALLEY INDEX

PEOPLE ECONOMY SOCIETY PLACE GOVERNANCE

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# ABOUT THE 2016 SILICON VALLEY INDEX

Dear Friends:

Silicon Valley continues to sizzle.

You'll see on the pages of this report how employment growth, already impressive, just keeps accelerating. We're now adding jobs at a rate we haven't seen since the short-lived dot-com craze in 2000, and with this growth comes extremely low unemployment rates and rising incomes. Innovation is thriving, as measured by patent generation and record levels of venture funding, and our entrepreneurs are proliferating ideas, products, and services that disrupt established industries and change our lives.

It's extraordinary, truly, and a thing to celebrate.

But what is it really like inside the "box"?

In some ways our region is a closed box—a built-out system with no more room to expand. As employment levels rise, the issues of traffic congestion and housing continue to mount.

In other ways, the region is an open box—if the rising tide doesn't lift all the boats, it replaces those boats. As housing prices increase and the cost of living rises faster than the state and nation, many Silicon Valley residents choose to live elsewhere and are promptly replaced by newcomers who fill our growing employment demands.

Are traffic, high housing costs and population turnover simply the price we have to pay for our success? What will happen as fewer and fewer of our region's service workers—those who enable our growing economy—can no longer afford to live near their work?

There are perils associated with prosperity, and the region needs to address them even while we celebrate our remarkable dynamism. Our organization exists for this very purpose, and we're pleased to provide the data that will inform our decision making.



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

# 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 B 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.

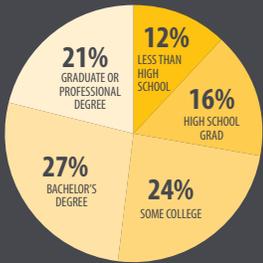
For all this and more, please visit the Silicon Valley Indicators website at [www.siliconvalleyindicators.org](http://www.siliconvalleyindicators.org).

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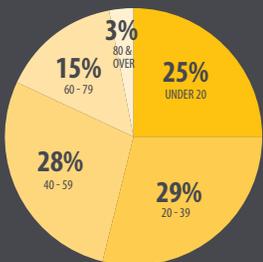
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# PROFILE OF SILICON VALLEY

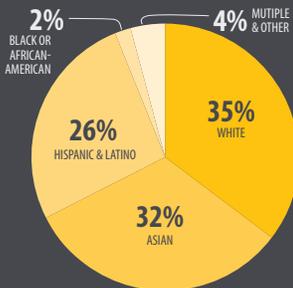
## ADULT EDUCATIONAL ATTAINMENT



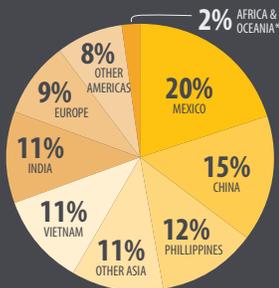
## AGE DISTRIBUTION



## ETHNIC COMPOSITION

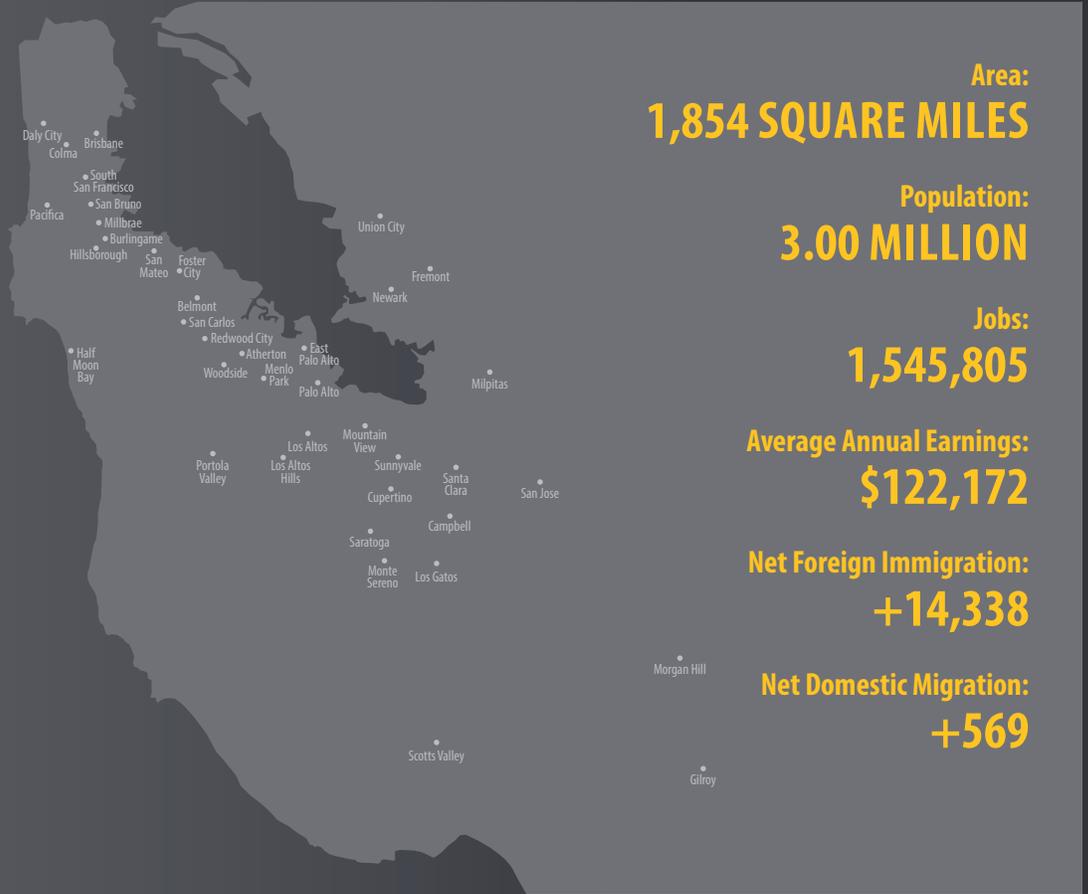


## FOREIGN BORN - 37.4%



\*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.

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 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

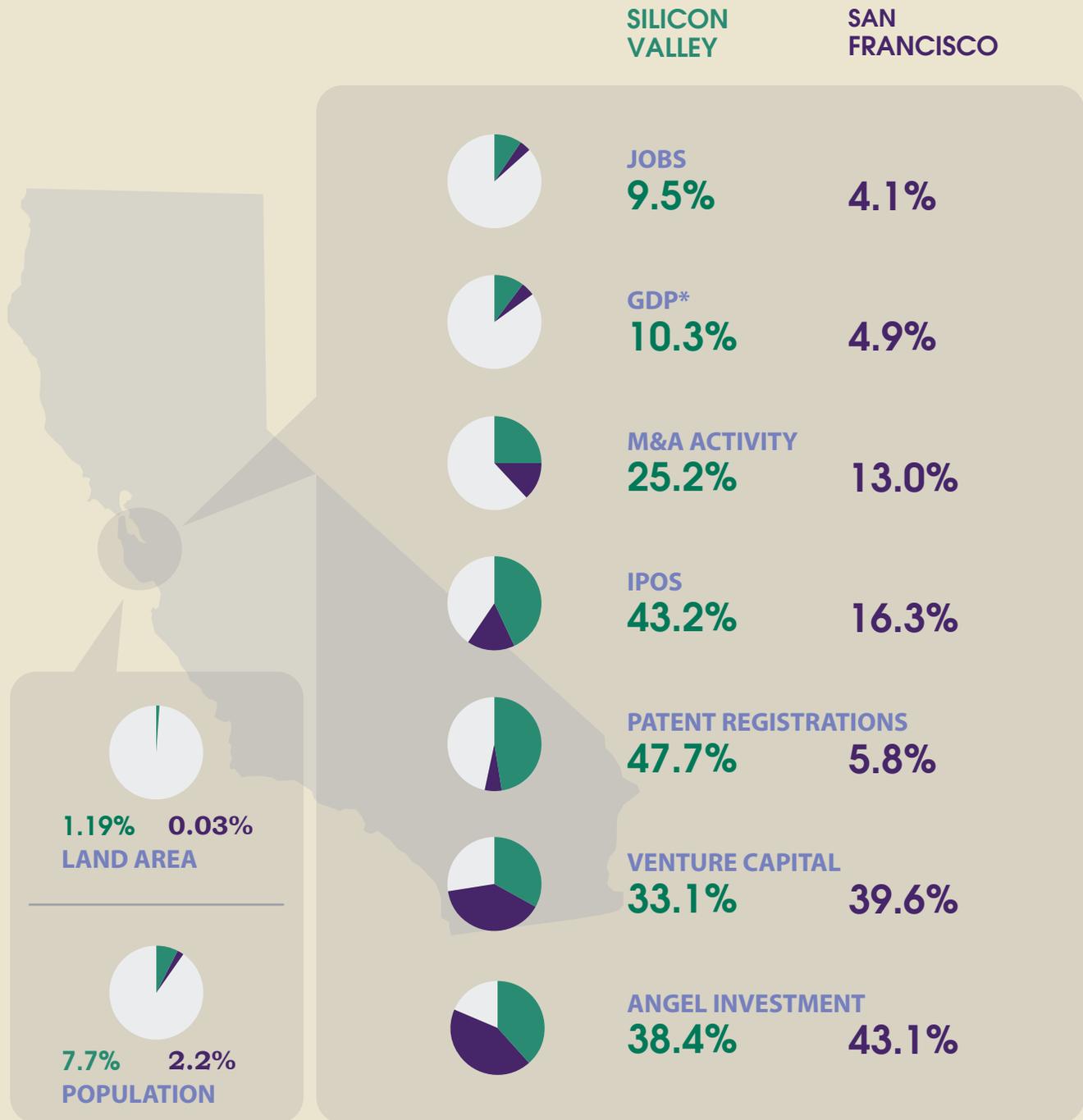
### ALAMEDA COUNTY

Fremont, Newark, Union City

### SANTA CRUZ COUNTY

Scotts Valley

# The Region's Share of California's Economic Drivers



\*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, 2015); GDP (Moody's Economy.com, 2015); Venture Capital (PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ Report, Data: Thomson Reuters); Patent Registrations (U.S. Patent and Trademark Office, 2014); Initial Public Offerings (Renaissance Capital, 2015); Jobs (U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages; JobsEQ, Q2 2015); Angel Investment (CB Insights, Q1-3 2015); Mergers & Acquisitions (Factset Mergerstat, Q1-3 2015).

# 2016 INDEX HIGHLIGHTS

*The Silicon Valley economy is going strong, with accelerating employment growth, continued expansion of businesses and services, and rising incomes. However, serious housing and transportation issues challenge the region's economic competitiveness and impact the quality of life for our region's residents. Given wage disparities and severe housing challenges, these impacts are affecting some segments of our population more than others.*

## SILICON VALLEY'S ECONOMY IS THRIVING

### **Employment Levels**

Employment levels have not only far surpassed pre-recession (up 11.5% since 2007) but job growth is accelerating. In 2015, the Silicon Valley employment growth rate was +4.3% – higher than any other year since 2000.

### **Unemployment**

With rising employment levels, unemployment rates have decreased (dropping over the last six years) reaching 3.6% in November 2015. Decreases in unemployment rates occurred across all racial and ethnic groups. The 3.6% unemployment rate in Silicon Valley was significantly lower than throughout California (5.7%) and the United States (4.8%) during that same month.

### **Innovation and Entrepreneurship**

The region's innovation engine is going strong, with year-over-year increases in the number of patents filed by Silicon Valley inventors (up 14% in 2014), regional GDP (+2.1% after inflation-adjustment), angel investments (which reached \$1.4 billion in Q1-3), and the amount of venture capital infused into Silicon Valley companies (which, along with San Francisco VC investments, reached \$24.5 billion in 2015, far exceeding the prior year total of \$19.8 billion and representing the greatest amount of VC funding in any one year since 2000). For the second year in a row, San Francisco's influence on overall regional VC investment totals was significant, and was strongly influenced by a handful of very large deals (three over \$1 billion each, including Airbnb, Uber, and Social Finance).

### **Income**

Income and wages in Silicon Valley remain significantly higher than in the state or nation as a whole. A variety of income measures show continued gains, outpacing inflation. Between 2013 and 2014, per capita income increased by 1.9% to \$79,108 – rising for all racial and ethnic groups – and median household income increased by 4.4% to \$98,535. This trend continued into 2015, with an average wage increase of 5.6% since 2014 (reaching \$110,634). And as income levels rose, poverty rates – which fell to 8.1% in Santa Clara and San Mateo Counties in 2014 – declined. The 2014 poverty rate in Silicon Valley, particularly the childhood poverty rate (8.9%), was much lower than in San Francisco, California, or the United States as a whole.

### **Non-Residential Development & Commercial Space**

The region's businesses and services continued to expand in tandem with employment growth. This expansion is reflected in the large number of development approvals over the past two fiscal years (23.2 million square feet – nearly as much as during the prior five years combined), the increasing amount of new office space construction (3.14 million square feet – more than any other year since 2001), the revival of new warehouse development after fourteen years without any, declining building vacancy rates, and increasing asking rents (reflecting changes in supply and demand).

### **Increases in Public Transit Ridership**

The region has responded to increasing employment and development with increases in public transit ridership (+2.4% between the 2014 and 2015 fiscal years), particularly VTA Express Service, Caltrain, and ACE in Santa Clara County (+14.0%, +7.8%, and +6.5%, respectively, in per capita ridership over that same time period).

## HOWEVER, THE REGION IS STRUGGLING TO SUPPORT THIS GROWTH

### Housing

As employment growth accelerates and the region's population continues to grow rapidly, housing remains a critical issue. Low housing inventory and increasing demand are driving up median sale prices – which reached \$830,000 in 2015 (6% higher than the previous year) – making it more difficult for first-time homebuyers to get into the market. Along with increasing home prices, rental rates have gone up 8% year-over-year. Income gains were not nearly enough to accommodate home price and rental rate increases between 2013 and 2014, and new housing development has fallen far short of meeting the needs of a growing population. As such, household size and the share of multigenerational households have been increasing as residents try to minimize their housing costs.

### Traffic

Despite increases in public transit ridership, traffic congestion has become increasingly worse as the number of commuters increases. Average commute times to work have risen to 27 minutes (up 14% over the last decade). Annual delays (which reached 67 hours per person in 2014) and excess fuel consumption (28 gallons/person/year in 2014) due to congestion are further indicators of this growing issue.

### Inequality

While a variety of income measures indicate positive growth within the region, Silicon Valley income and wages vary significantly by skill and educational attainment level, racial and ethnic group, gender, and occupation. These income and wage disparities persist as the region grows additional high- and low-paying jobs (with fewer in the middle) and as the share of high-income households increases. For example, in 2014 the gap in per capita income between Silicon Valley's highest- and lowest-earning racial or ethnic groups was \$43,125 (a ratio of 2.9 for highest- to lowest-earners), and the gap in median income for residents with the highest and lowest educational attainment levels was \$78,865 (a ratio of 4.4).

### Residential Turnover

Although rising incomes and an increasing share of high-income households may appear to be positive signs for the region's residents, they may also indicate a turnover in Silicon Valley residents. As housing costs increase, Silicon Valley residents may choose to move elsewhere, with new residents moving in to fill the region's growing employment demands. Between July 2014 and July 2015, the region experienced a net influx of more than 14,000 foreign immigrants and nearly 600 domestic migrants.

## OTHER TRENDS OF INTEREST

### Hotel Development

While planned non-residential development projects during FY 2014-15 ranged from large office and industrial space to mixed office/commercial space and institutional development (e.g., schools and churches), among other types, there was a large amount of planned hotel development among a handful of Silicon Valley cities including South San Francisco, Mountain View, Cupertino, San Jose, and Morgan Hill. It was coupled with in-progress hotel development, and consistent with a +3.7% growth in Accommodation and Food Services jobs.

### Environmental Leadership

Silicon Valley is continuing to exhibit leadership across environmental indicators. The region has responded to persistent drought conditions with a significant decline in water consumption (down 17% to 112 gallons/person/day) and an increase in the recycled percentage of water used. Additionally, Silicon Valley residents are combatting climate change by switching from cars with traditional fossil fuel combustion engines to electric vehicles (with more than 25,000 EV drivers in 2015, representing 20% of the state's drivers) and by expanding EV charging infrastructure (reaching more than 1,000 public charging outlets in 2015, representing 13% of all outlets within the state). Lastly, the cumulative installed solar capacity within Silicon Valley increased by 20% between 2014 and 2015, reaching 272 megawatts and helping to decrease the region's overall reliance on grid electricity.

### Health Insurance Coverage

The share of residents with health insurance coverage rose steeply between 2013 and 2014 in Silicon Valley, San Francisco, and the state and nation as a whole, particularly for the population ages 18 to 64 (which increased by five percentage points in Silicon Valley) and those in that age category who are unemployed (up 14 percentage points). These increases were highly influenced by the implementation of the 2010 Patient Protection and Affordable Care Act (ACA, also known as Obamacare), which became effective on January 1, 2014 for the earliest enrollees.

### Foreign-Born Residents

Silicon Valley has an extraordinarily large share of residents who are foreign born (37.4%, compared to California, 27.1%, or the United States, 13.3%). This population share increases to 50% for the employed, core working age population (ages 25-44), and even higher for certain occupational groups. For instance, nearly 74% of all Silicon Valley employed Computer and Mathematical workers ages 25-44 in 2014 were foreign-born. Correspondingly, the region also has an incredibly large share of foreign-language speakers, with 51% of Silicon Valley's population over age five speaking a language other than exclusively English at home (compared to 43% in San Francisco, 44% in California, and 21% in the United States as a whole). This majority share in 2014 was up from 49% in 2011.

# PEOPLE

## TALENT FLOWS AND DIVERSITY

*Silicon Valley's population is growing rapidly, primarily driven by foreign immigration and natural change despite declining birth rates.*

### 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.<sup>1</sup> Maintaining and increasing these flows, combined with efforts to integrate immigrants into our communities, will likely improve the region's potential for global competitiveness.

### HOW ARE WE DOING?

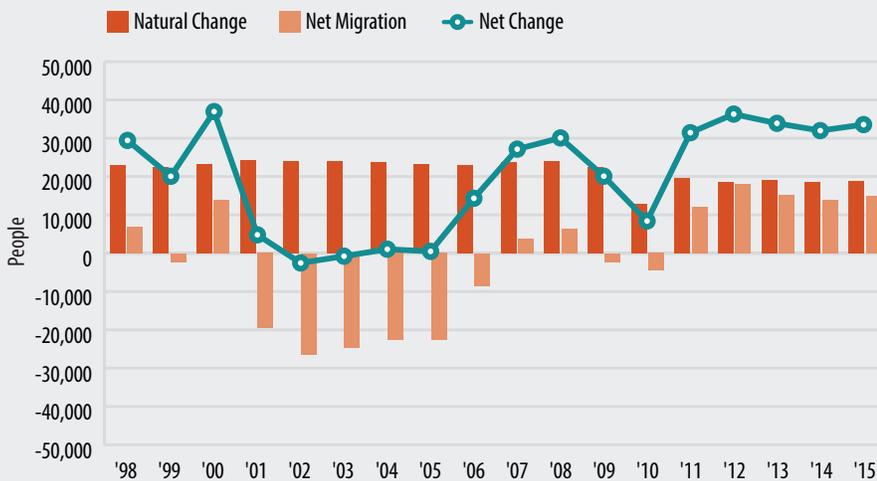
Silicon Valley's population has continued to grow steadily, increasing by approximately

1. Manuel Pastor, Rhonda Ortiz, Marlene Ramos, and Mirabai Auer. Immigrant Integration: Integrating New Americans and Building Sustainable Communities. University of Southern California Program for Environmental and Regional Equity (PERE) & Center for the Study of Immigrant Integration (CSI) Equity Issue Brief. December, 2012.

## POPULATION CHANGE

### Components of Population Change

*Santa Clara & San Mateo Counties*



Data Source: California Department of Finance | Analysis: Silicon Valley Institute for Regional Studies

### Santa Clara & San Mateo Counties, and California

2014-2015

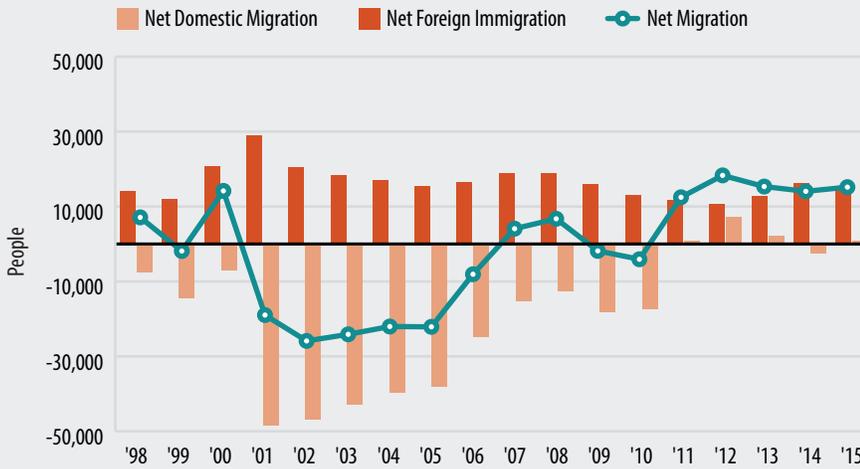
	JULY 2014	JULY 2015	% CHANGE
SANTA CLARA & SAN MATEO COUNTIES	2,643,919	2,677,734	+1.28%
CALIFORNIA	38,725,091	39,071,323	+0.89%

*Silicon Valley's population continues to grow rapidly.*

### Net Migration Flows

Foreign & Domestic Migration

Santa Clara & San Mateo Counties



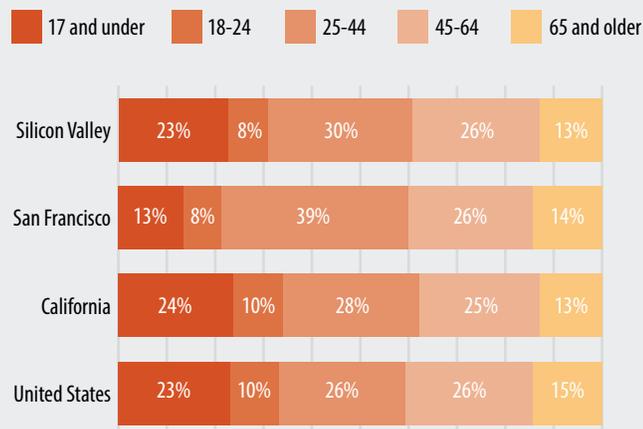
Net domestic migration in/out of Silicon Valley has slowed since 2010.

Data Source: California Department of Finance | Analysis: Silicon Valley Institute for Regional Studies

### AGE DISTRIBUTION

#### 2014

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



#### Population Change by Age Category

Silicon Valley, 2007-2014

17 AND UNDER	+4.0%
18-24	+2.6%
25-44	+6.4%
45-64	+8.0%
65 AND OLDER	+18.6%
<b>TOTAL</b>	<b>+7.4%</b>

San Francisco has a much larger share of 25-44 year-olds – the core working age group – than Silicon Valley, California, or the United States.

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

# PEOPLE

## TALENT FLOWS AND DIVERSITY

34,000 per year since 2011 (in Santa Clara and San Mateo Counties), despite the region's declining birth rates. Between July 2014 and July 2015, Santa Clara and San Mateo Counties combined grew by 1.28% (compared to 0.89% in the state as a whole), adding 33,815 people in one year. The entire city-defined Silicon Valley region (including Santa Clara and San Mateo Counties, Fremont, Union City, Newark and Scotts Valley) grew by 1.1% (+32,669) between January 1, 2014 and January 1, 2015,<sup>2</sup> and reached three million in or around late January.<sup>3</sup> During that time period, Milpitas was the 7th fastest growing city in the state (at +3.87%, adding 2,700 people), and three other Silicon Valley cities had growth rates in the +2 to 3% range (Half Moon Bay, San Bruno, and Brisbane).

2. According to the California Department of Finance, Demographic Research Unit, E-1: City/County Population Estimates with Annual Percent Change, released May 1, 2015.  
3. Massaro, Rachel. Population Growth in Silicon Valley. Silicon Valley Institute for Regional Studies. May, 2015.

Natural population change (births minus deaths) in Santa Clara and San Mateo Counties was +18,908 between July 2014 and July 2015. This annual rate has remained relatively steady since 2011 at around +18,900 per year – much lower than historical averages around +23,500 per year<sup>4</sup> due primarily to the region's declining birth rates. Although the number of deaths per year declined temporarily during the recession, it increased by 6.2% since 2008 while the annual birth rate fell in 2008 and remained low in 2015 (at 11.2% below the 2008 rate). This 11.2% decline compares to -10.3% throughout the state since 2008.

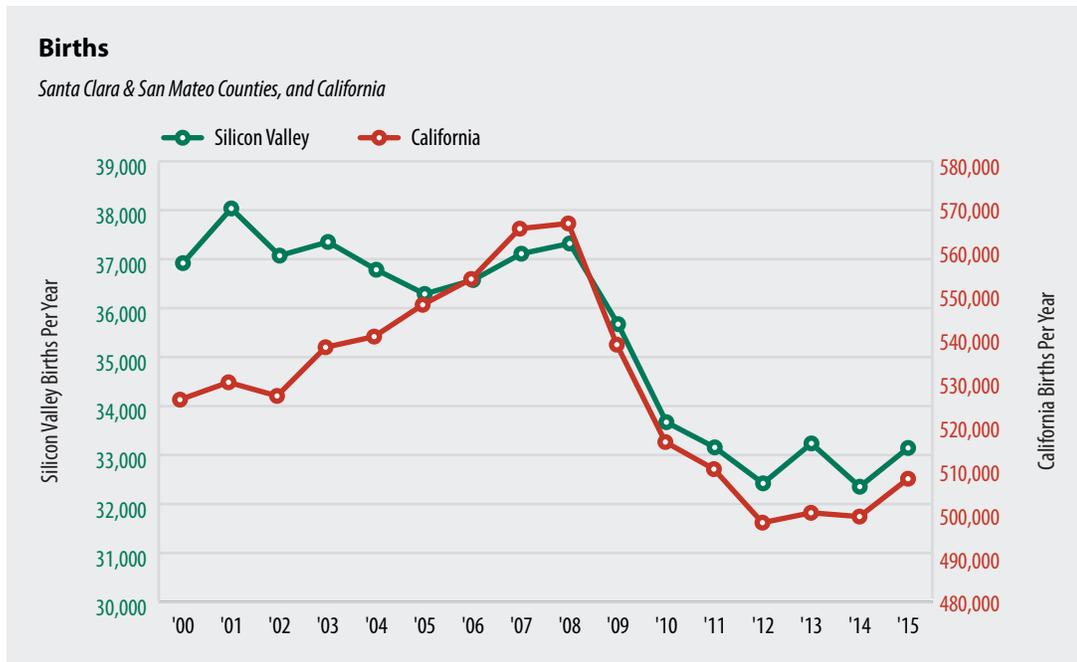
Net migration added 14,907 residents to the two counties between July 2014 and July 2015, including 14,338 foreign immigrants and 569 U.S. citizens. Over the longer term,

4. Average based on 2000-2009 data for births minus deaths from the California Department of Finance, E-6 estimates.

migration – particularly the domestic component of migration – has varied along with the cycles of job growth and loss in Silicon Valley. Foreign immigration levels rose near the end of the dot-com boom and again in 2007 and 2014. Over the 1996 to 2015 period, foreign immigration averaged 16,600 per year in Santa Clara and San Mateo Counties, varying between a low of 10,733 (in 2012) and a high of 28,845 (in 2001). Even larger variations exist in net domestic migration, which averaged -17,000 over the entire 20-year period with a range of -48,341 (in 2001) to +7,334 (in 2012).

Silicon Valley's net domestic migration has traditionally been negative – indicating that more residents were moving out of the region than moving in – and varied along with regional employment cycles. The region had

**Silicon Valley birth rates have declined 11% since 2008.**



Data Source: California Department of Finance | Analysis: Silicon Valley Institute for Regional Studies

LEFT CHART →  
**Silicon Valley's level of educational attainment is much higher than the state or the nation, with 48% of adults having a bachelor's degree or higher.**

RIGHT CHART →  
**Educational attainment varies across racial and ethnic groups.**

an average loss of 8,600 residents per year from 1996 through 2000, and a loss of 30,400 per year from 2001 through 2010. However, between 2011 and 2015 the region has had an average in-migration of +1,600 new residents per year,<sup>5</sup> with the (net) addition of 569 people between July 2014 and July 2015.

Silicon Valley's population has a slightly higher concentration of young, working-age residents than that of the state or nation. In contrast, San Francisco's population has a much larger share of 25-44 year-olds (39%) than Silicon Valley (30%), California (28%), or the United States (26%). Silicon Valley population growth since pre-recession (2007) has been skewed toward older residents, with +7.4% growth overall but +18.6% growth in the population age 65 and older.

Forty-eight percent of Silicon Valley residents have a bachelor's, graduate or professional degree, compared with only 32% in California and 30% in the United States. While Silicon Valley's level of educational attainment is high relative to the state and the nation, it is still lower than that of San Francisco (54% with a bachelor's degree or higher).

In 2014, Hispanic and Latino residents in Silicon Valley, California and the U.S. had the lowest levels of educational attainment (at 15%, 11%, and 14%, respectively, with a bachelor's degree or higher). Furthermore, between 2013 and 2014, the already low share of Silicon Valley's Hispanic or Latino population – including more than 400,000 people – with a bachelor's degree or higher declined by 1.3%. Over that same period of time, the

share of Silicon Valley's Black or African-American population with a bachelor's degree or higher increased from 23% to 34% in 2014 – indicating over 5,000 more Black or African-American residents at that educational attainment level, despite the overall local Black or African-American population declining by nearly 500 people over that period of time. This 47.3% increase in the number of highly educated Black or African-American residents is much larger than throughout the state (+4.0%) or across the nation (+4.2%).<sup>6</sup> Longer term trends also indicate an increase in the share of Silicon Valley's Black or African-American population with a bachelor's degree or higher, rising from 27% in 2006 to 34% in 2014. The

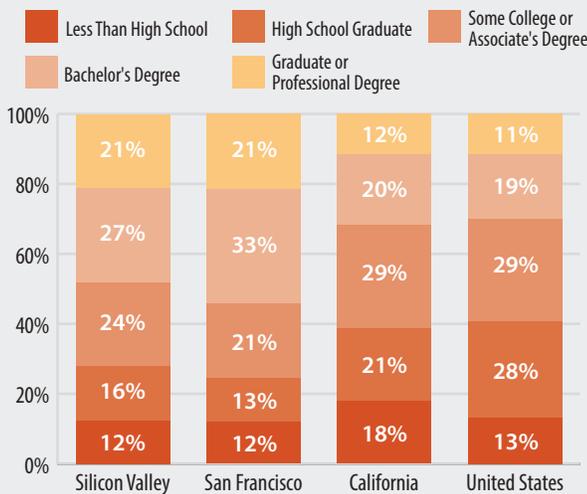
5. Based on revised estimates from the California Department of Finance for July 2015, released December 16, 2015.

6. Large fluctuations for the Silicon Valley Black or African-American population may be partially due to the relatively small sample size in the U.S. Census Bureau, American Community Survey 1-Year Estimates.

## EDUCATIONAL ATTAINMENT

### Percentage of Adults, by Educational Attainment

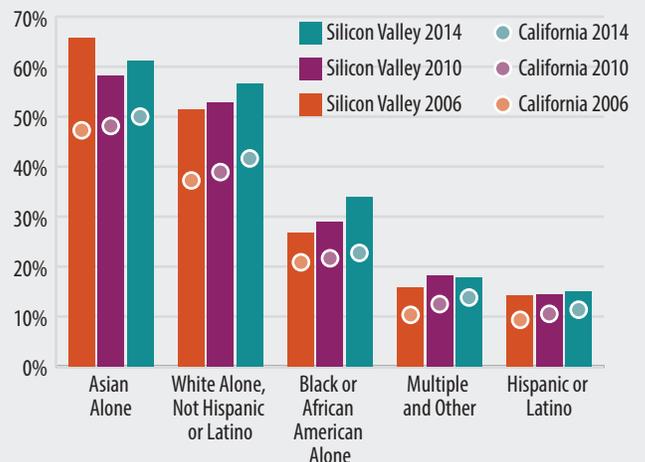
Santa Clara & San Mateo Counties, San Francisco, California, and the United States 2006-2014



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

### Percentage of Adults with a Bachelor's Degree or Higher by Race/Ethnicity

Santa Clara & San Mateo Counties, and California | 2014



Note: Categories African American, Asian, and White are non-Hispanic or Latino | Data Source: United States Census Bureau, American Community Survey | Analysis: Silicon Valley Institute for Regional Studies

# PEOPLE

## TALENT FLOWS AND DIVERSITY

region’s educational attainment level trends over that period of time were positive for nearly all racial and ethnic groups except Asian residents, for whom the share with a bachelor’s degree or higher fell slightly from 66% in 2006 to 61% in 2014.

The number of science and engineering degrees conferred in Silicon Valley and the United States has been increasing steadily over time. In 2014, there were 14,228 science and engineering degrees conferred among Silicon Valley’s top academic institutions – 538 more (+3.9%) than the previous year and 3,000 more (+27%) than a decade prior. However, despite these increases year after year, Silicon Valley’s share of total U.S. science and engineering degrees has been declining since 2009, from 3.6% that year down to 3.1% in 2014. And while the share of Silicon Valley science and

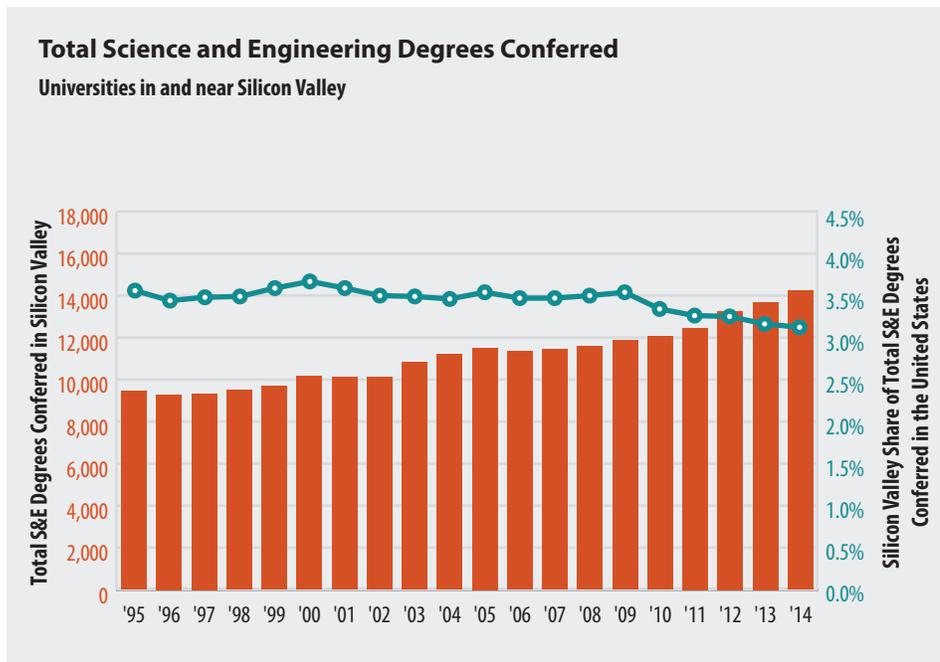
engineering degrees conferred to women increased between 1995 and 2001 (from 31% to 38%), the share has remained relatively steady since then. In 2014, 37% of all Silicon Valley science and engineering degrees were conferred to women (compared to 34% in the United States overall).

Silicon Valley has a significantly higher population share that is foreign-born (37.4%) compared to California (27.1%) or the U.S. (13.3%), and a slightly higher share than San Francisco (34.4%). This population share increases to 50% for the employed, core working age population (ages 25-44), and even higher for certain occupational groups. For instance, nearly 74% of all Silicon Valley employed Computer and Mathematical workers ages 25-44 are foreign-born.

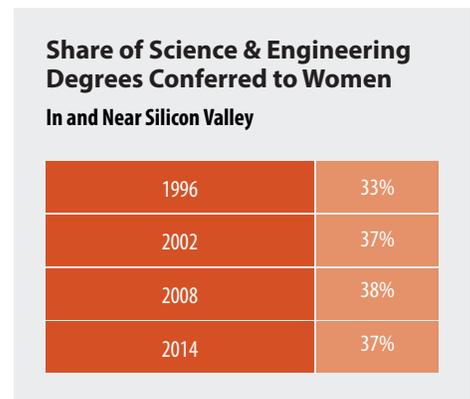
The region also has a majority share of foreign-language speakers, with 51% of Silicon Valley’s population over age five speaking a language other than exclusively English at home (compared to 43% in San Francisco, 44% in California, and 21% in the U.S. as a whole).<sup>7</sup> This 51% population share has grown from 49% in 2007. Of the population share speaking a foreign language at home, a much smaller percentage (37%) speaks Spanish than in the state (66%) or country (62%). Other common languages in Silicon Valley include Chinese (16% of foreign-language speakers), Indo-European languages other than French, German, and Slavic languages (11%), Tagalog (9%), and Other Asian and Pacific Island languages (9%).

7. Speaking a language other than English at home may be a cultural preference for Silicon Valley residents; thus, it should not be interpreted that these residents are all English-language deficient.

### TOTAL SCIENCE & ENGINEERING DEGREES CONFERRED



Data Source: National Center for Educational Statistics, IPEDS | Analysis: Silicon Valley Institute for Regional Studies

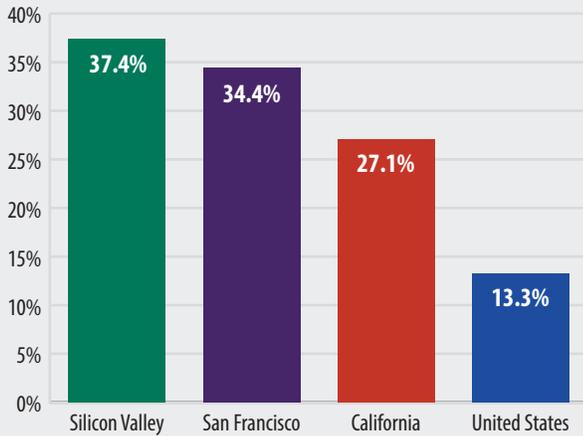


*Silicon Valley’s share of total U.S. degrees conferred has declined over the last five years, and the share of degrees conferred to women has remained constant for more than a decade.*

## FOREIGN BORN

### Foreign Born Share of the Total Population

Santa Clara & San Mateo Counties, San Francisco, California, and the United States | 2014



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

### Foreign Born Share of Employed Residents Over Age 16, by Occupational Category

Santa Clara & San Mateo Counties | 2014

	ALL	AGES 25-44
COMPUTER & MATHEMATICAL	67.3%	73.6%
ARCHITECTURAL & ENGINEERING	60.9%	65.0%
NATURAL SCIENCES	48.7%	53.2%
MEDICAL & HEALTH SERVICES	41.3%	42.0%
FINANCIAL SERVICES	41.5%	45.1%
OTHER OCCUPATIONS	42.7%	45.3%
<b>TOTAL</b>	<b>45.9%</b>	<b>50.0%</b>

*Silicon Valley's percentage of foreign-born residents is significantly higher than California or the United States, and slightly higher than San Francisco.*

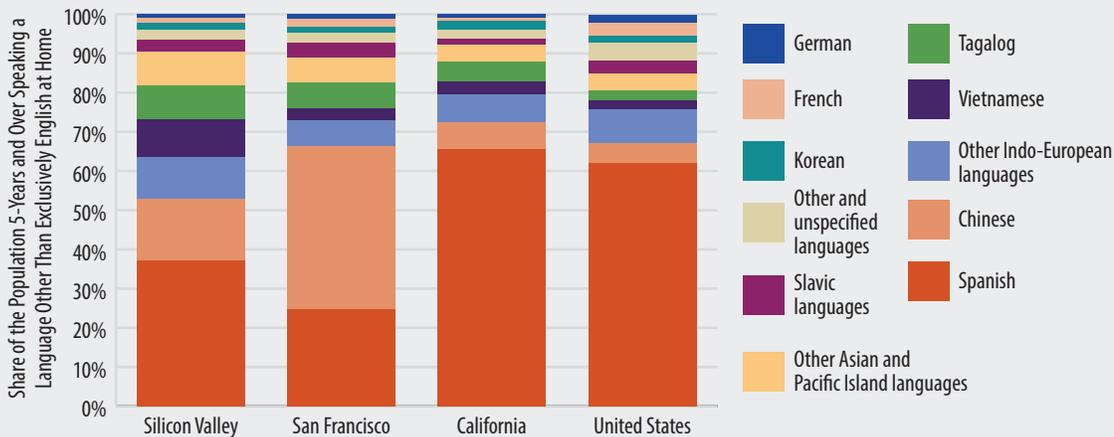
*More than half of Silicon Valley's population speaks a language other than exclusively English at home.*

PEOPLE

## FOREIGN LANGUAGE

### Languages Other Than English Spoken at Home for the Population 5 Years and Over

Santa Clara & San Mateo Counties, San Francisco, California, and the United States | 2014



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

### Languages Spoken at Home, by Share of the Population 5-Years and Over Silicon Valley, 2014

ENGLISH ONLY	49.5%
SPANISH	18.7%
OTHER ASIAN & PACIFIC ISLAND LANGUAGES	14.6%
EUROPEAN LANGUAGES	8.0%
CHINESE	7.9%
OTHER & UNSPECIFIED LANGUAGES	1.3%

# ECONOMY

## EMPLOYMENT

*Silicon Valley job growth has accelerated, and continues across all major areas of economic activity.*

### 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.

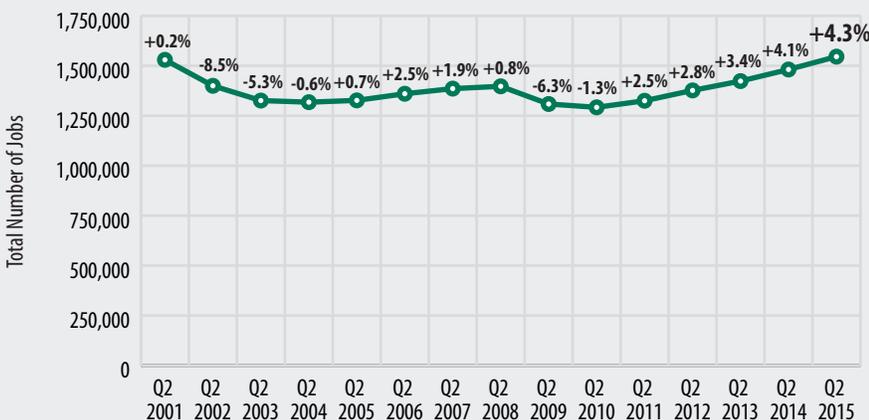
### HOW ARE WE DOING?

Between Q2 2014 and Q2 2015, the San Francisco Bay Area created 129,223 additional jobs (rising to a total of 3.67 million jobs). Job growth in Silicon Valley (including San Mateo and Santa Clara Counties, Fremont, Newark, Union City, and Scotts Valley) has been accelerating since 2010, with the most rapid growth occurring between Q2 2014 and Q2 2015 at 4.3% (+64,363 jobs) – a rate higher than any

### Job Growth

Number of Jobs with Percent Change Over Prior Year

Silicon Valley



*Silicon Valley's job growth rate remained extraordinarily high in 2015.*

Note: Percent change from 2012 to 2015 is based on unsuppressed numbers. Percent change for prior years is based on QCEW data totals with suppressed industries. Percent change for 2015 was updated using Q2 reported growth. | Data Sources: U.S. Bureau of Labor Statistics Quarterly Census of Employment and Wages; JobsEQ; EMSI | Analysis: BW Research

other year since 2000.<sup>1</sup> This 4.3% growth rate is higher than the Bay Area overall (+3.6%), Alameda County (3.8%), California (+2.8%), and the United States (+2.0%), but lower than the rate in San Francisco (+4.8%). With the addition of more than 64,000 jobs in 2015, Silicon Valley's job total rose to 1.55 million.

Employment numbers in Silicon Valley are well above pre-recession levels (up 11.5% since 2007), while the state and nation are only slightly above pre-recession levels (+3.1% and +2.4%, respectively, since 2007). And, since the low in 2010, the total number of jobs in Silicon

Valley has grown by 19.6%. San Francisco job growth has been slightly more rapid (22.5% since 2010), while Alameda County, the state and the country are recovering more slowly (at 15.9%, 11.9%, and 8.5% growth, respectively, since 2010).

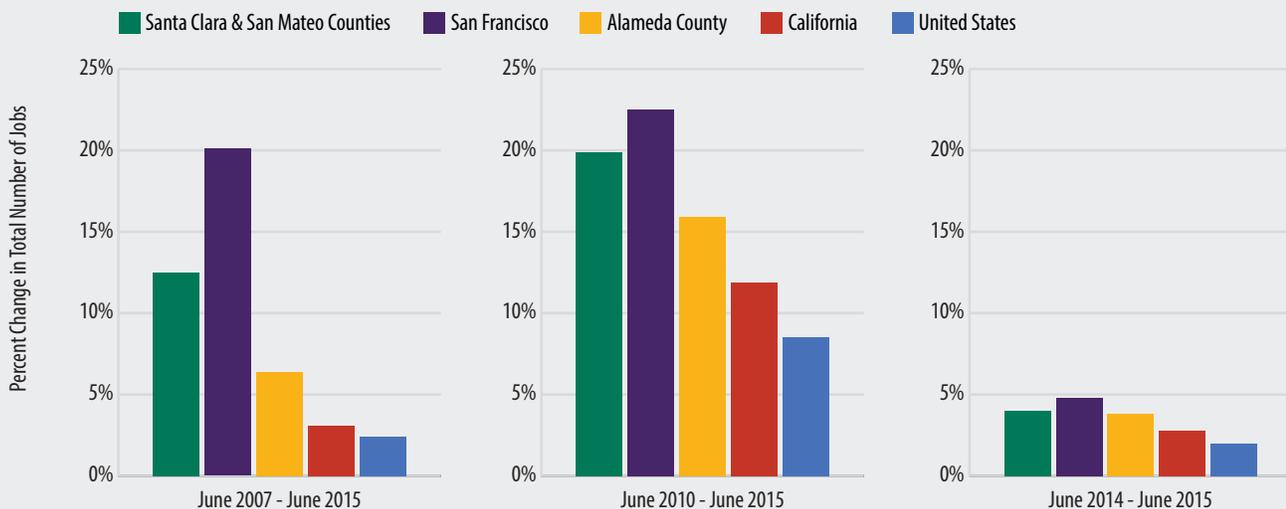
Between Q2 2014 and Q2 2015, Silicon Valley made strides across all major areas of economic activity. During that same period, the region saw growth in Community Infrastructure & Services (+18,136 jobs, 2.4% higher than Q2 2014), Innovation and Information Products & Services (+23,963, 6.6% higher than Q2 2014), Business Infrastructure & Services (+8,719, 3.6% higher than Q2 2014), and Other Manufacturing (+2,742, 5.1% higher

1. Job growth data are from BW Research using the U.S. Bureau of Labor Statistics Quarterly Census of Employment and Wages data, JobsEQ, and EMSI, and are based on the broader Silicon Valley definition including Santa Clara and San Mateo counties, plus the cities of Scotts Valley, Fremont, Newark, and Union City.

*The total number of jobs in Silicon Valley has far surpassed pre-recession levels, and has continued to grow.*

### Relative Job Growth

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



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

# ECONOMY

## EMPLOYMENT

than Q2 2014).<sup>2</sup> Contributing most significantly to this growth were jobs in Computer Hardware Design & Manufacturing (+13,719 jobs, up 9.9% since Q2 2014), Internet and Information Services (+7,318 jobs, or +16.6%), Construction (+6,030 jobs, or +9.8%), Accommodation and Food Services (+4,469 jobs, or +3.7%), and Healthcare and Social Services (+3,303 jobs, or +2.3%). The greatest number of Silicon Valley job losses were in Telecommunications Manufacturing and Services (-3,219 jobs, or -15.4%) and Semiconductors and Related Equipment Manufacturing (-1,569 jobs, or -3.1%).<sup>3</sup> All major areas of economic activity

in Silicon Valley have recovered employment levels since the recession except Other Manufacturing. Community Infrastructure and Services jobs are 8.9% above pre-recession (2007) levels, Innovation and Information Products and Services are up 23.2%, and Business Infrastructure and Services are up 4.7% while Other Manufacturing jobs were still 17.8% below pre-recession levels in Q2 2015.

The unemployment rate in Silicon Valley has continued to decline since the high of 10.5% in July and August of 2009, reaching 3.6% in November 2015,<sup>4</sup> just slightly higher than San Francisco's 3.4% unemployment rate.

Unemployment rates have declined across the state and nation during this period as well, both hitting a seven-year low of 5.5% and 4.8%, respectively.<sup>5</sup> Unemployment rates in Silicon Valley improved across all racial and ethnic groups between 2013 and 2014, ranging from 3.3% (Asian) to 5.7% (Other, including Some Other Race and Two or More Races). There have been significant declines in unemployment rates by race and ethnicity since the peaks in 2009-2011, most notably for Black or African-American residents, with a decline from 11.6% unemployment in 2011 to 5.0% in 2014.<sup>6</sup>

2. Definitions of industry categories are included in Appendix B.  
3. See Appendix A for job totals and percent change in employment by category

4. Residential employment data used to compute unemployment rates are from the United States Bureau of Labor Statistics and are based on the two-county definition of Silicon Valley including Santa Clara and San Mateo counties. Monthly unemployment rates are not seasonally adjusted.

5. The low occurred in September 2015 for California, and in November 2015 for the United States.

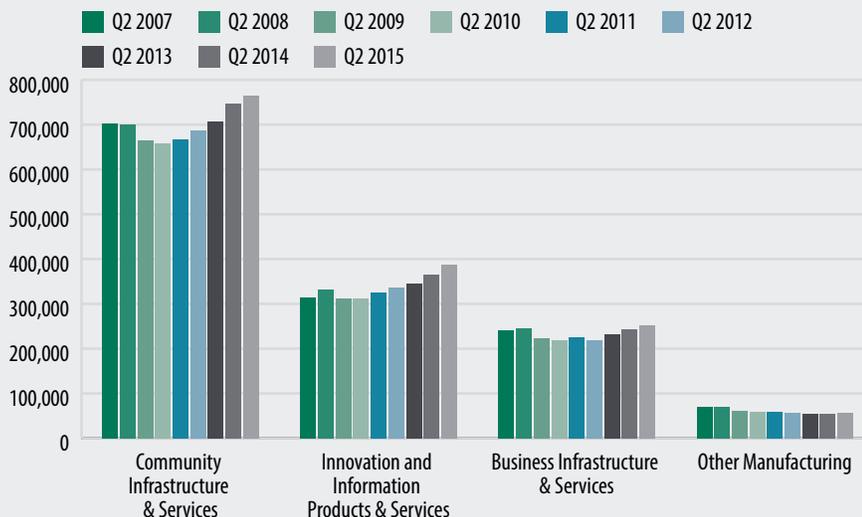
6. Large fluctuations for the Silicon Valley Black or African-American population may be partially due to the relatively small sample size in the U.S. Census Bureau, American Community Survey 1-Year Estimates.

**Silicon Valley Innovation and Information Products and Services jobs grew by more than 6% between Q2 2014 and Q2 2015.**

## SILICON VALLEY MAJOR AREAS OF ECONOMIC ACTIVITY

### Average Annual Employment

Silicon Valley, 2007-2015



### Silicon Valley Employment Growth by Major Areas of Economic Activity

Percent Change in Q2

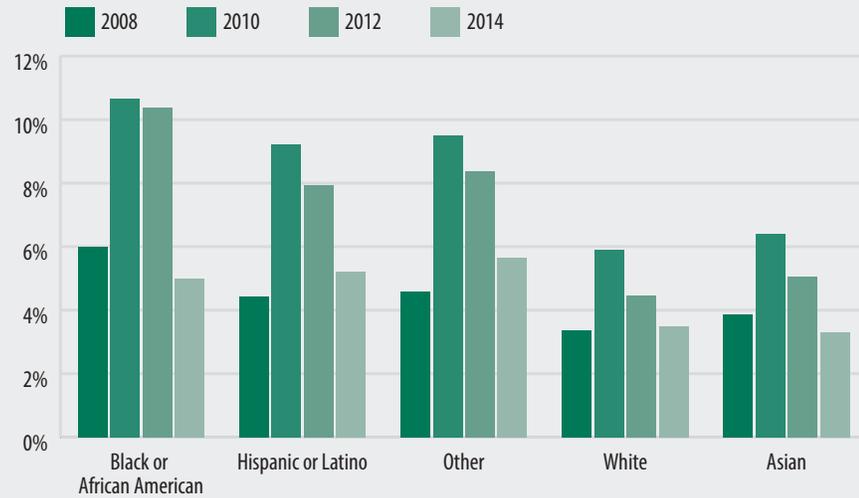
	2007-2015	2010-2015	2014-2015
Community Infrastructure & Services	+8.9%	+16.3%	+2.4%
Innovation and Information Products & Services	+23.2%	+24.4%	+6.4%
Business Infrastructure & Services	+4.7%	+15.4%	+3.6%
Other Manufacturing	-17.8%	-2.2%	+5.1%
<b>Total Employment</b>	<b>+12.0%</b>	<b>+19.4%</b>	<b>+4.3%</b>

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

### Unemployed Residents' Share of the Working Age Population

Residents Over 16 Years of Age, by Race/Ethnicity

Santa Clara & San Mateo Counties

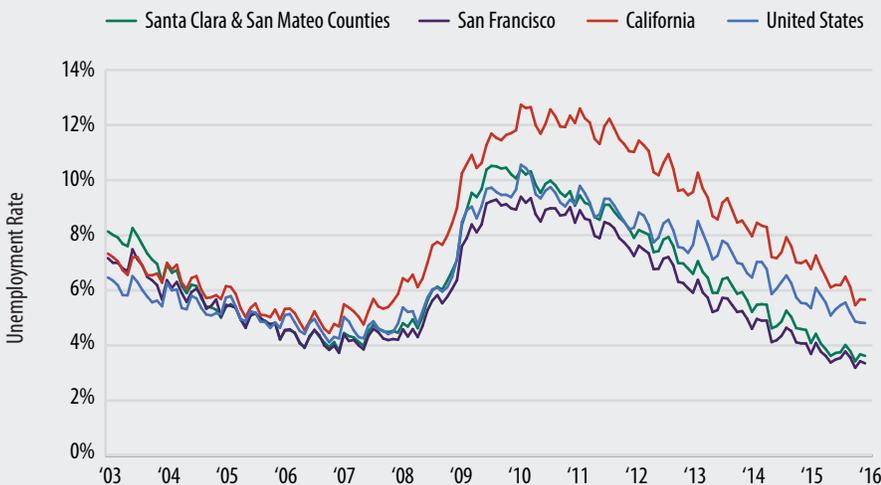


Note: Other includes the categories Some Other Race and Two or More Races. | Data Source: United States Census Bureau, American Community Survey | Analysis: Silicon Valley Institute for Regional Studies

Unemployment declined across all racial and ethnic groups between 2013 and 2014.

### Monthly Unemployment Rate

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



Note: Santa Clara County, San Mateo County, San Francisco and California data for November 2015 are Preliminary. | 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

The regional unemployment rates in spring, 2015, dipped below pre-recession lows.

# ECONOMY

## EMPLOYMENT

Employment growth since the beginning of the economic recovery period (2010) has occurred across all types of jobs, including Tier 1 (high-skill, high-wage jobs), Tier 2 (mid-skill, mid-wage jobs), and Tier 3 (low-skill, low-wage) jobs.<sup>7</sup> Tier 3 jobs increased most rapidly during this time period, up 21.0% (+74,586 jobs). In comparison, 2010-2015 recovery rates were +19.3% (+52,569) for Tier 1 jobs and +16.6% (+80,678) for Tier 2 jobs. While Silicon Valley's five-year trend shows that the region is

growing jobs disproportionately in Tiers 1 and 3 in comparison to Tier 2, San Francisco's five-year job growth is much more skewed toward Tier 1 jobs (+20.8%, compared to +16.1% for Tier 2 and +16.8% for Tier 3). Over the past year, however, Silicon Valley job growth has also been skewed toward Tier 1 jobs, which were up +5.2% since 2014.

The long term trend in Silicon Valley shows a declining share of Tier 2 jobs. While the percentage of total employment represented by Tier 1 and Tier 3 jobs has grown over the last

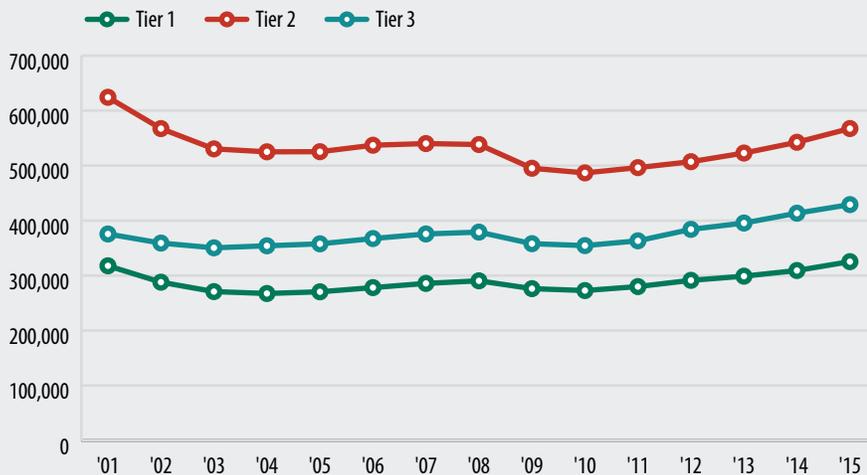
decade (by 1.2 and 1.4 percentage points, respectively), the share of Tier 2 jobs has dropped by 2.6 percentage points. This trend is even more pronounced in San Francisco, where the share of Tier 2 jobs has declined 3.0 percentage points since 2005.

7. Definitions of Tier 1, Tier 2, and Tier 3 jobs are included in Appendix B

## EMPLOYMENT

### Total Employment by Tier

Silicon Valley



### Percent Change in Employment, by Tier

2010-2015

	SILICON VALLEY	SAN FRANCISCO
TIER 1	+19.3%	+20.8%
TIER 2	+16.6%	+16.1%
TIER 3	+21.0%	+16.8%
<b>TOTAL</b>	<b>+19.5%</b>	<b>+17.5%</b>

*Silicon Valley employment gains have occurred across all Tiers, but gains for Tier 3 jobs have been more rapid since the beginning of the recovery.*

Note: Definitions of Tier 1, Tier 2, and Tier 3 jobs are included in Appendix B. | 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

### Percent of Total Employment by Tier

Silicon Valley



*The share of Silicon Valley employment in Tier 2 jobs has decreased by nearly 3% over the last decade, although year-to-year changes have been relatively small.*

Note: Definitions of Tier 1, Tier 2, and Tier 3 jobs are included in Appendix B. | 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

# ECONOMY

## INCOME

*Wage and income gains in Silicon Valley continue, but income gaps remain large 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.<sup>1</sup>

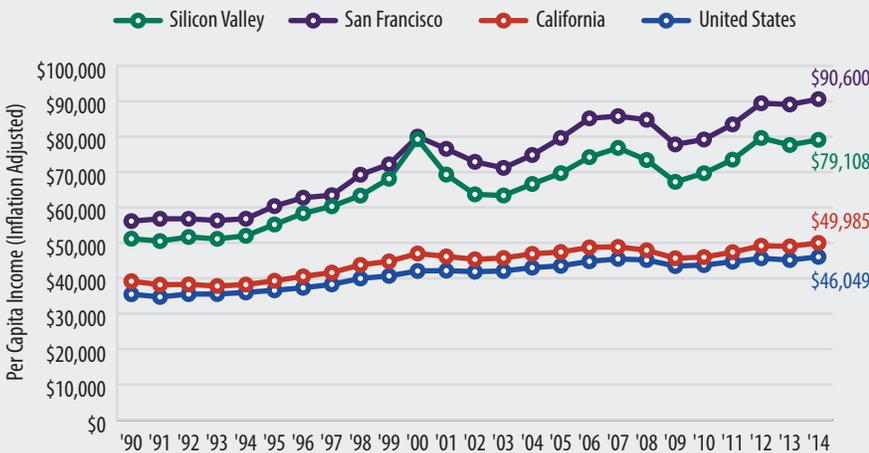
### HOW ARE WE DOING?

This analysis includes a variety of income measures (per capita income, individual and household median income, average and median wages) presented after inflation adjustment, which accounts for the rising cost of goods and services within the region. It is important to note that while nominal (unadjusted) income may exhibit an upward trend, inflation-adjusted income may not. When this happens, it is referred to as income (or wage) lag.

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 2014 (used to set 2014-2015 FRPM eligibility) ranged from \$11,670 for a one-person household to \$40,090+ for a household with eight or more people. The poverty limit for a family of four was \$23,850.

### Per Capita Personal Income

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



**Silicon Valley per capita income increased by \$1,460 between 2013 and 2014.**

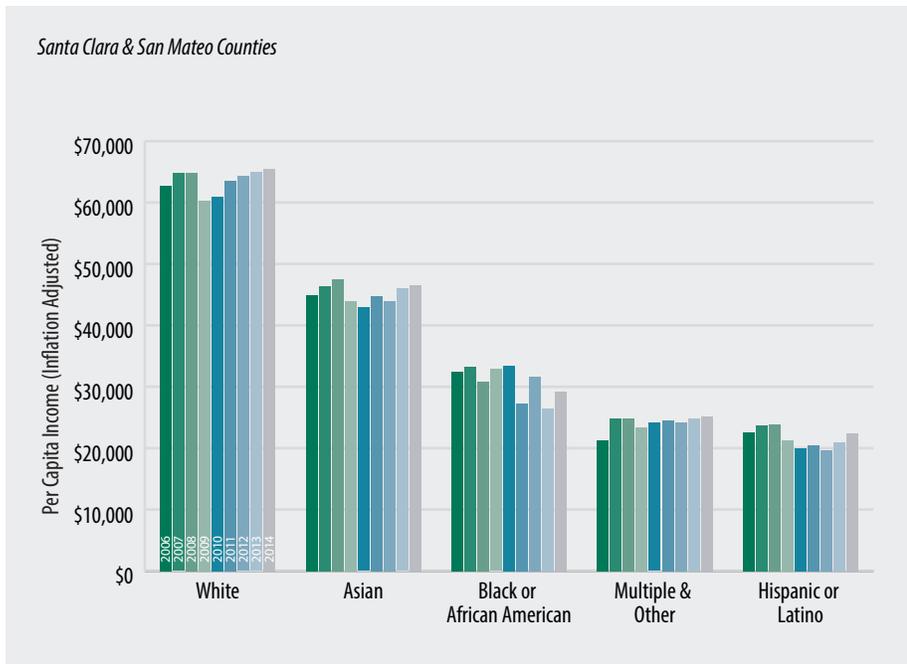
Note: Personal income is defined as the sum of wage and salary disbursements (including stock options), supplements to wages and salaries, proprietors' income, dividends, interest, and rent, and personal current transfer receipts, less contributions for government social insurance. | Data Source: U.S. Department of Commerce, Bureau of Economic Analysis | Analysis: Silicon Valley Institute for Regional Studies

Between 2013 and 2014, the various income measures examined show continuing gains – per capita income increased by 1.9% (after inflation-adjustment) to \$79,108 and rose for all racial and ethnic groups, and median household income increased by 4.4% to \$98,535; however, individual median income only rose for Silicon Valley residents with the lowest levels of educational attainment. Increasing income and wages continued into 2015, with an average wage increase of 5.6% between 2014 and 2015. Increases in median wages varied significantly by occupational category, with some categories exhibiting losses despite the overall upward trend.

Silicon Valley’s per capita personal income in 2014 was \$79,108 (compared to \$90,600

in San Francisco, \$49,985 in California, and \$46,049 in the United States) –18% higher than the low of \$67,229 in 2009 – according to data from the U.S. Bureau of Economic Analysis. This value increased by 1.9% between 2013 and 2014 after inflation-adjustment. According to data from the U.S. Census Bureau, the gap in per capita income between Silicon Valley’s highest- and lowest-earning racial or ethnic groups was \$43,125 (compared to \$43,987 in 2013), with the highest-income group (White residents) making 2.9 times more than the lowest-income group (Hispanic or Latino residents). Silicon Valley inflation-adjusted per capita income increased across all racial and ethnic groups between 2013 and 2014, most notably for the Black or African-American

PER CAPITA INCOME BY RACE & ETHNICITY



Percent Change in Inflation-Adjusted Per Capita Income: 2013-2014

	Silicon Valley	San Francisco	California	United States
WHITE	+0.9%	-4.6%	+4.7%	+4.1%
ASIAN	+1.4%	+4.2%	+5.1%	+4.8%
BLACK OR AFRICAN AMERICAN	+10.5%	-7.0%	+2.9%	+4.4%
MULTIPLE & OTHER	+1.6%	-4.6%	+7.4%	+4.5%
HISPANIC OR LATINO	+6.9%	-3.4%	+6.3%	+5.2%

Per capita income increased across all racial and ethnic groups between 2013 and 2014.

Note: Multiple & Other includes Native Hawaiian & Other Pacific Islander Alone, American Indian & Alaska Native Alone, Some Other Race Alone and Two or More Races; Personal income is defined as the sum of wage or salary income, net self-employment income, interest, dividends, or net rental welfare payments, retirement, survivor or disability pensions; and all other income; White, Asian, Black or African American, Multiple & Other are non-Hispanic.  
Data Source: United States Census Bureau, American Community Survey | Analysis: Silicon Valley Institute for Regional Studies

# ECONOMY

## INCOME

population (+10.5% to \$29,208)<sup>2</sup> and the Hispanic or Latino population (+6.9% to \$22,378). Per capita income for the Black or African-American population in California and the U.S. increased as well over that time period (+2.9% and +4.4%, respectively), but declined in San Francisco (-7.0%). San Francisco's Asian residents were the only racial or ethnic group to experience a rise in inflation-adjusted per capita income between 2013 and 2014 (up 4.2% to \$38,799).

Contrary to the one-year trend, over a longer time period (2006-2014) inflation-adjusted per capita incomes for Silicon Valley's Black or African-American and Hispanic or Latino populations have actually declined by nearly 10% and 1%, respectively, while per capita income

for residents of Multiple and Other Races<sup>3</sup> has increased by 18% from \$21,316 in 2006 to \$25,214 in 2014. The latter may be partially due to the increase in the number of residents who identify as Multiple and Other Races, which grew by 23% over that time period – more than twice as fast as the overall population growth rate.

Median household income gains in Silicon Valley and San Francisco have outpaced inflation, reaching \$98,535 and \$85,070, respectively, following a three-year upward trend since the recent low in 2011. These income values are much higher than in the state (\$61,933) or nation as a whole (\$53,657). Between 2013 and 2014, median household income in Silicon Valley rose by \$4,109 (+4.4%) after adjusting for inflation.

Nominal Silicon Valley average wages increased 9.6% between 2014 and 2015, greatly outpacing inflation (which was 3.7% in the Bay Area). Average inflation-adjusted wages increased by \$5,906 (+5.6%) in 2015 to \$110,634, continuing the upward trend since 2008 while remaining far above San Francisco (\$96,746, up 4.7% from 2014), Alameda County (\$67,615, down 1.2%), the rest of the Bay Area (\$57,328, down 0.6%) and the state (\$60,467, up 2.1%). Silicon Valley wage increases were likely affected by increases in the state and local minimum wage during that time period.<sup>4</sup> Since 2010, average inflation-adjusted wages in Silicon Valley, San Francisco, and California increased (by 15.7%, 10.3%, and 3.6%, respectively), while average wages in Alameda County and the Rest of the Bay Area remained

2. Large fluctuations for the Silicon Valley Black or African-American population may be partially due to the relatively small sample size in the U.S. Census Bureau, American Community Survey 1-Year Estimates.

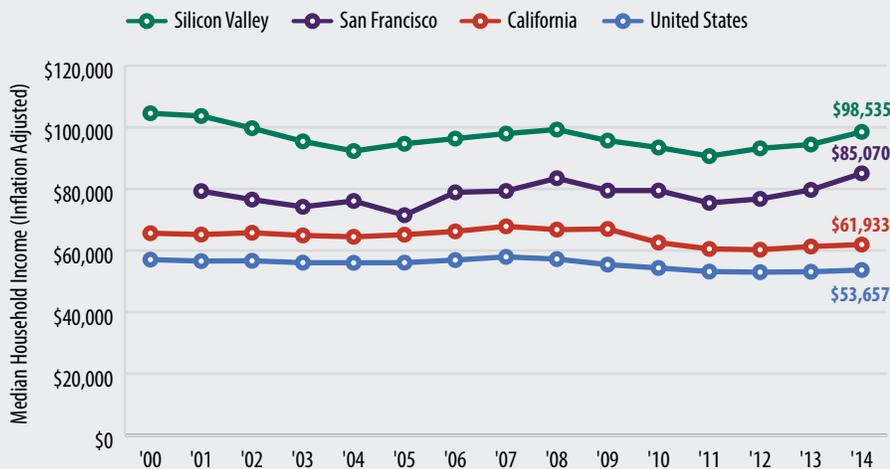
3. Includes Native Hawaiian & Other Pacific Islander Alone, American Indian & Alaska Native Alone, Some Other Race Alone, and Two or More Races.

4. The State of California minimum wage increased to \$9.00 per hour on July 1, 2014, and the cities of Mountain View and Sunnyvale raised the minimum wage to \$10.30 in 2014.

## MEDIAN HOUSEHOLD 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; interest, dividends, or 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

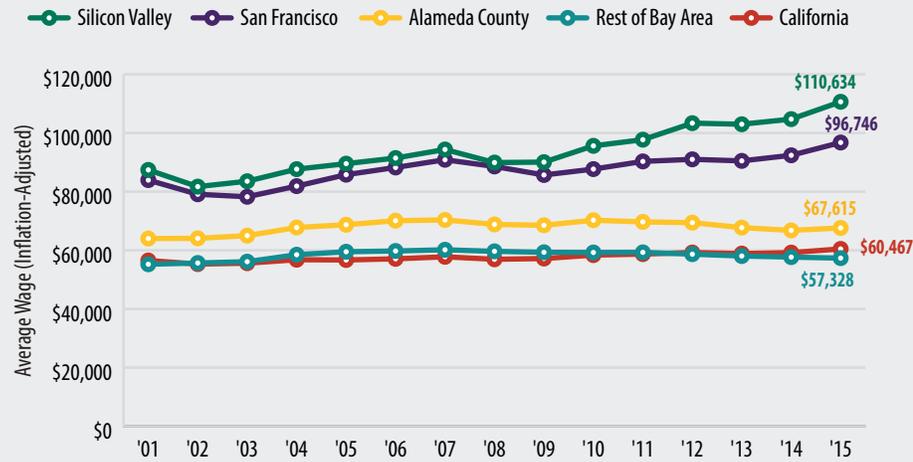
### Percent Change in Inflation-Adjusted Median Household Income

	2013 - 2014
SILICON VALLEY	+4.4%
SAN FRANCISCO	+6.8%
CALIFORNIA	+1.0%
UNITED STATES	+1.1%

**Median household income increased in Silicon Valley, San Francisco, California, and the United States.**

### Average Wages

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



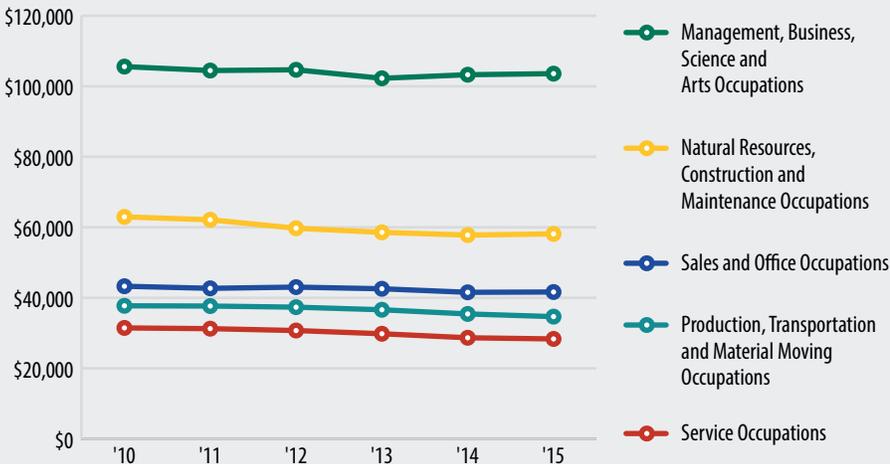
Average wages in Silicon Valley reached nearly \$111,000 in 2015.

Note: Rest of Bay Area includes all of the 9-County Bay Area except Silicon Valley, San Francisco, and Alameda County; 2014 to 2015 average wages were updated to reflect Q2 reported growth. Data Sources: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages; JobsEQ; EMSI | Analysis: BW Research

### MEDIAN WAGES FOR VARIOUS OCCUPATIONAL CATEGORIES

#### Median Wages for Various Occupational Categories

Combined San Jose-Sunnyvale-Santa Clara and San Francisco-San Mateo-Redwood City MSAs



Trends in median wages between 2010 and 2015 varied by occupational category.

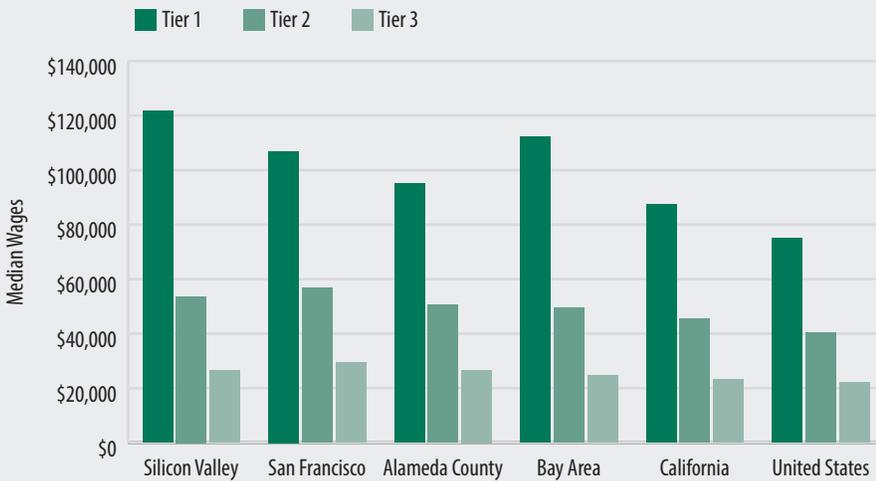
Data Source: California Employment Development Department | Analysis: BW Research

# ECONOMY

## INCOME

### Median Wages by Tier

Silicon Valley, San Francisco, Bay Area, Alameda County, California, and the United States | 2015



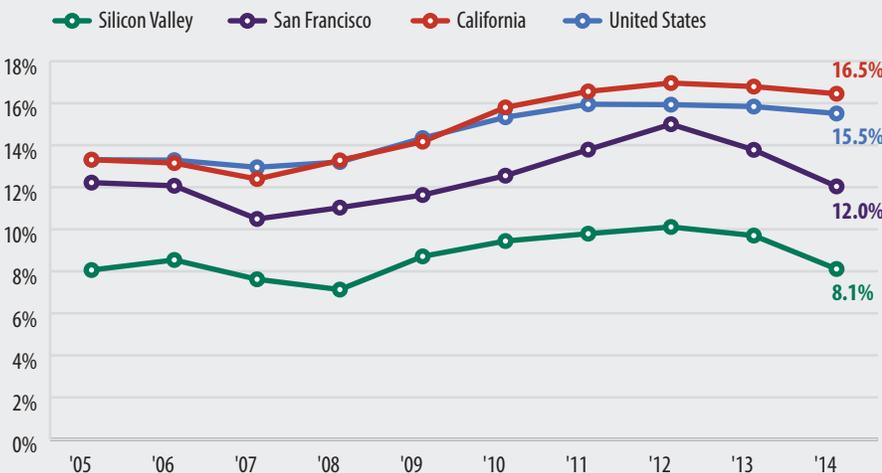
Note: Definitions of Tier 1, Tier 2, and Tier 3 jobs are included in Appendix B. | Data Sources: BW Research; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages; California Employment Development Department; JobsEQ; EMSI | Analysis: BW Research

Median wages for Silicon Valley Tier 1 workers is 4.6 times more than for Tier 3 workers.

## POVERTY STATUS

### Percentage of the Population Living in Poverty

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



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

### Share of Children Living in Poverty

	2013	2014
SANTA CLARA & SAN MATEO COUNTIES	12.1%	8.9%
SAN FRANCISCO	12.0%	11.6%
CALIFORNIA	23.5%	22.7%
UNITED STATES	22.2%	21.7%

The Silicon Valley poverty rate declined to 8.1% in 2014.

3.8% and 3.2% lower in 2015 than in 2010, respectively. These gains in average wages were highly influenced by increases for the high-wage occupations such as Management Occupations, Business and Financial Operations Occupations, Computer and Mathematical Occupations, and Architecture and Engineering Occupations.

But while average wages in Silicon Valley and California increased by 5.6% and 2.1%, respectively, between 2014 and 2015, inflation-adjusted median wages only increased by 1% across the two Metropolitan Statistical Areas (MSAs) covering Silicon Valley<sup>5</sup> and by 0.8% in California during that time period. The greatest increase in Silicon Valley MSA

inflation-adjusted median wages was for Natural Resources, Construction, and Maintenance Occupations, due to increases for Construction and Extraction Occupations (up 1.8% to \$61,581 in 2015). Median wages for Service Occupations in the two Silicon Valley MSAs actually declined by 1.1% (after inflation-adjustment) to \$28,341 over that time period despite a 4.2% increase in the total number of jobs, with the greatest wage losses for Protective Service Occupations (down 7.4% to \$42,234 in 2015).

Median wages not only vary by occupational category, but also by wage and skill level. In 2015, median wages for Tier 1 (high-skill, high-wage) jobs in Silicon Valley were

5. The two Metropolitan Statistical Areas (MSAs) covering Silicon Valley are the San Jose-Sunnyvale-Santa Clara MSA (including San Benito and Santa Clara Counties) and the San Francisco-San Mateo-Redwood City MSA (including Marin, San Francisco and San Mateo Counties).

**Share of Households Living Below the Federal Poverty Limit and Self-Sufficiency Standard**

2012

	BELOW POVERTY	BELOW SELF-SUFFICIENCY
SANTA CLARA & SAN MATEO COUNTIES	7.6%	29.5%
SAN FRANCISCO	9.1%	26.8%
CALIFORNIA	13.4%	38.3%

**30% of all Silicon Valley households are not self-sufficient.**

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 \$38,890+ for a household with eight or more people. The poverty limit for a family of four was \$23,050. | Data Source: Center for Women's Welfare; United States Department of Health & Human Services | Analysis: Silicon Valley Institute for Regional Studies

# ECONOMY

## INCOME

\$121,638, compared to \$53,685 for Tier 2 (middle-skill, middle-wage), and \$26,624 for Tier 3 (low-skill, low-wage). Median wages for Tier 1 jobs were higher in Silicon Valley than in San Francisco (\$106,974), Alameda County (\$95,139), the entire 9-County Bay Area (\$112,227), California (\$87,422), and the United States as a whole (\$74,901). In contrast, Tier 2 and Tier 3 median wages were higher in San Francisco (at \$56,638 and \$29,286, respectively) than in Silicon Valley or the other geographies. One stark contrast in median wages by Tier in 2015 is the gap between Tier 1 and Tier 3 wages, which is \$95,014 in Silicon Valley compared to a range of \$52,686 to \$87,663 elsewhere in the Bay Area, California, and United States as a whole. In Silicon Valley and in the Bay Area as a whole, median wages for Tier 1 jobs were 4.6 times the median

wages for Tier 3 jobs in 2015, compared to a multiplier of 3.4-3.8 among the other geographies.

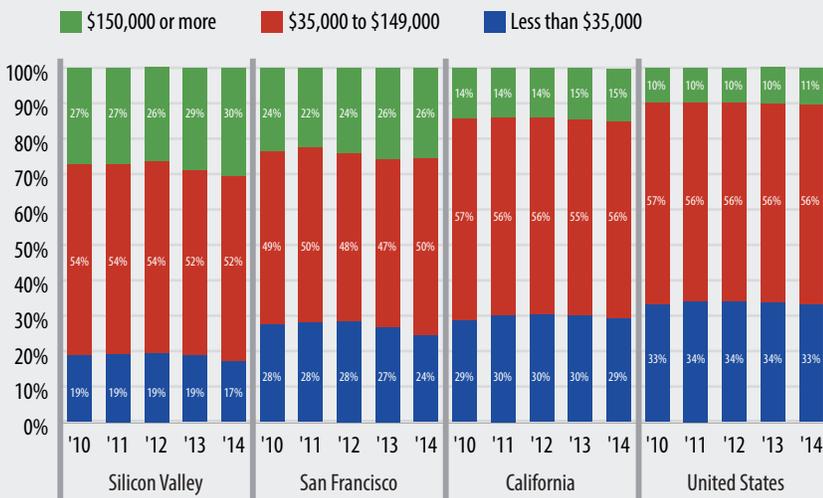
As income in Silicon Valley is, on average, relatively high compared with other parts of the state and country, the percentage of Silicon Valley residents living below the federal poverty limit was relatively low in 2014 (8.1% in Santa Clara and San Mateo Counties, compared to 12.0% in San Francisco, 16.5% in the state, and 15.5% in the nation). Similarly, the share of children living in poverty is lower in Silicon Valley (8.9%) than in San Francisco (11.6%), California (22.7%) or the United States (21.7%). Furthermore, between 2013 and 2014, Silicon Valley's childhood poverty rate decreased significantly due to the decline in childhood poverty rates in Santa Clara

County (down from 13.2% in 2013 to 8.6% in 2014). However, despite the low poverty levels, nearly 30% of the region's population does not make enough money to meet their basic needs without public or private, informal assistance. Additionally, 37% of Silicon Valley public school students during the 2014-2015 school year were receiving free or reduced price meals. In comparison, California's percentage of students receiving free or reduced price meals was 59% in 2014-2015, nine percentage points higher than it was a decade prior.

Between 2013 and 2014, the share of low-income (<\$35,000 per year) households in Santa Clara and San Mateo Counties declined from 19% to 17%, while the share of high-income households (>\$150,000 per year) increased from 29% to 30%. This increase in share is primarily due to households earning

### Distribution of Households by Income Ranges

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



*The share of households earning more than \$150,000 annually increased in Silicon Valley between 2013 and 2014, while decreasing slightly in 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, 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

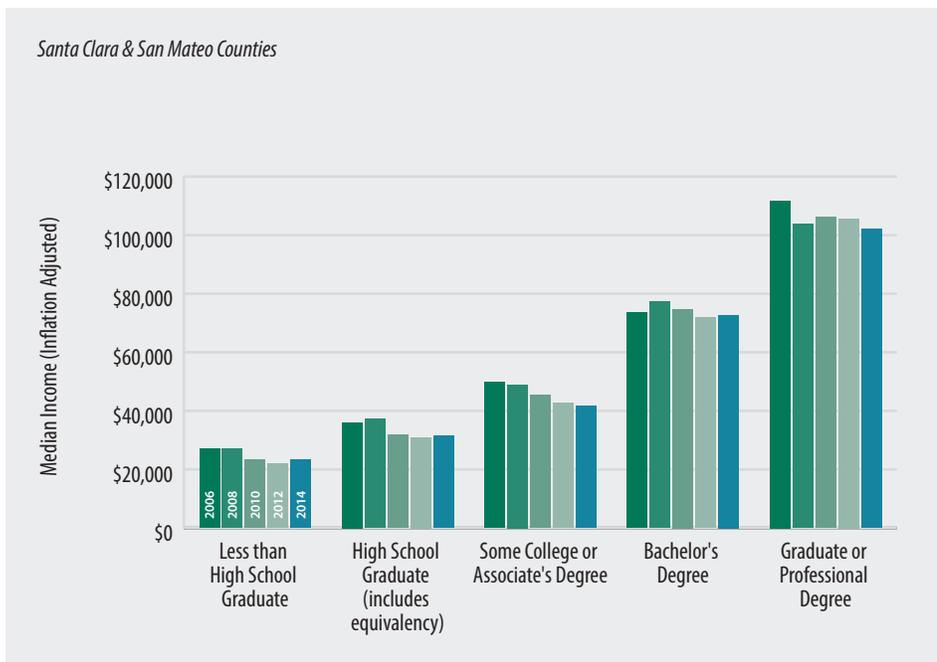
more than \$200,000 per year. Between 2010 and 2014, the share of high-income households in Silicon Valley has increased by three percentage points. A similar trend has been observed in San Francisco, where the share of high-income households has increased by two percentage points over the same time period. San Francisco's share of low-income households has declined from 28% in 2010 to 24% in 2014.

Individual (inflation adjusted) median income in Silicon Valley increased between 2013 and 2014 for residents who never graduated high school (up 3% to \$23,281) and those with a high school diploma (up 0.3% to \$31,551). For residents with a some college or associate's degree, those with a bachelor's degree or with a graduate or professional degree, individual median income declined

during that same period (down 2.1%, 0.5%, and 2.7%, respectively). In 2014, median individual income for Silicon Valley residents with a graduate or professional degree was \$102,147 – \$78,865 (4.4 times) more than for those with less than a high school diploma. This compares to an income gap of \$64,070 in San Francisco, \$57,814 in California, and \$45,633 in the United States between residents with the highest and lowest levels of educational attainment.

At each educational attainment level, women in Silicon Valley tend to earn less than men. This gender-income gap is observed at the local, state and national levels. For full-time workers in 2014 (of which there were 632,000 men and 443,000 women in Santa Clara and San Mateo Counties), average wages for men were 33.4% higher than for women (compared to 22.4% in San Francisco, 25.1% in California,

## INDIVIDUAL MEDIAN INCOME BY EDUCATIONAL ATTAINMENT



Note: Some College includes Less than 1 year of college; Some college, 1 or more years, no degree; Associate degree; Professional certification. The 2008 value for Graduate or Professional Degree is for San Mateo County only. | Data Source: United States Census Bureau, American Community Survey | Analysis: Silicon Valley Institute for Regional Studies

### Disparity in Median Income between Highest and Lowest Educational Attainment Levels

2014

	GAP	RATIO
SILICON VALLEY	\$78,865	4.4
SAN FRANCISCO	\$64,070	4.0
CALIFORNIA	\$57,814	3.9
UNITED STATES	\$45,633	3.2

**Median income varies significantly by educational attainment level.**

# ECONOMY

## INCOME

and 33.6% in the United States). The Silicon Valley gender-income disparity is greatest for those with a graduate or professional degree. At that level of educational attainment, men earn \$141,000 on average, 37.3% more than average wages for women (\$103,000). This amounts to wages of \$0.73 for every dollar a man would make, on average. While this disparity is high, it is less than in California or the United States overall, where men with a graduate or professional degree earn 45% and 55% more than women, respectively (women earn \$0.69 and \$0.64, respectively, on the male-dollar).

The Silicon Valley gender-income gap is greatest in the for-profit sector and for those who are self-employed, whereas women who work in state or federal government positions

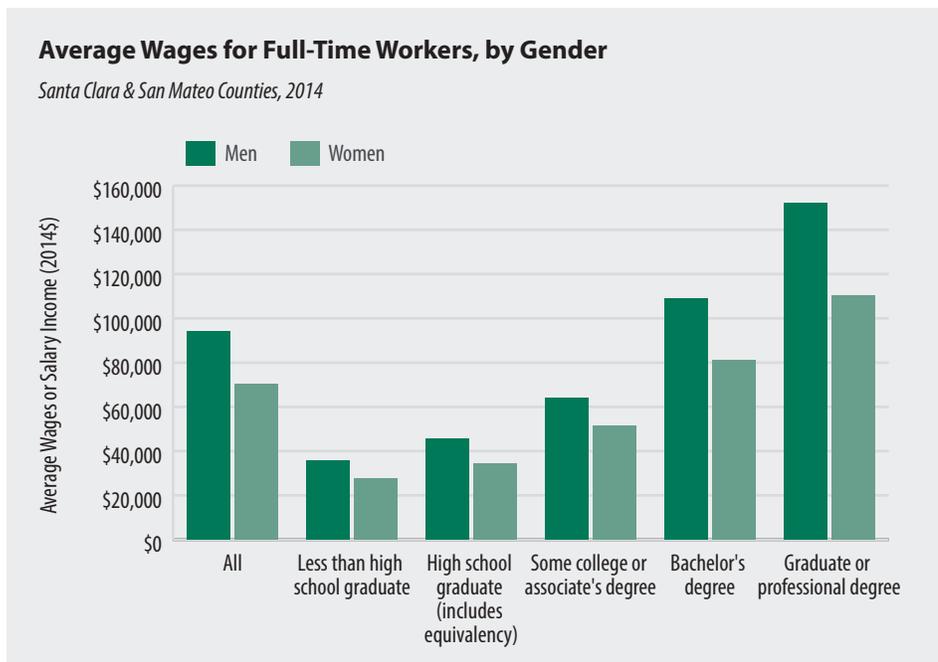
actually earn more than men, on average (\$1.11 and \$1.14 for every dollar earned by their male counterparts, respectively). Similar trends are evident in San Francisco, except San Francisco self-employed women in unincorporated businesses – contrary to the Silicon Valley trend – earned more money than men, on average (\$1.02 for every male-dollar). There are some occupational categories in which women fared better in comparison to men, including Computer and Mathematical professions (particularly Computer Programmers) in Silicon Valley, and Architectural and Engineering professions in San Francisco (especially managerial positions, in which women earned 42% more than men, on average, in 2014). As a whole (across all educational attainment levels, occupational categories and worker

classes), the gender-wage gap in Silicon Valley grew between 2008 and 2012 (from \$0.73 to \$0.77 earned by women for every male-dollar), then declined in 2013 and 2014 (to \$0.71 and \$0.75, respectively).<sup>6</sup>

Although the State of California has recently passed legislation (SB 358) that mandates equal pay for “substantially similar work” (as opposed “equal work”) at any public or private business location – representing what is arguably the most comprehensive effort by any state in the nation to enforce equal pay between genders – it did not become effective until January 1, 2016, and therefore had no impact on the 2014 Census data.<sup>7</sup>

6. Data tables for the gender-wage disparity over time, across worker classes and occupational categories are available online at [www.siliconvalleyindicators.org](http://www.siliconvalleyindicators.org).  
7. Senate Bill No. 358, Jackson. Conditions of employment: gender wage differential.

## AVERAGE WAGES FOR FULL-TIME WORKERS, BY GENDER

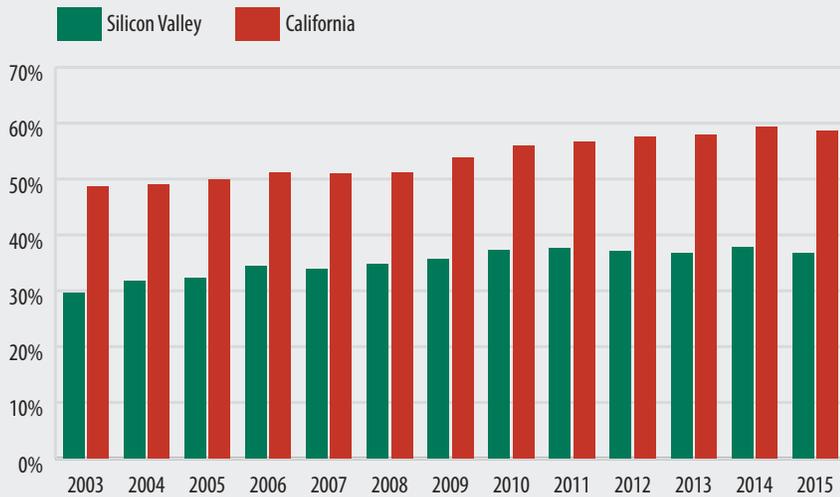


**Men in Silicon Valley with a bachelor's degree or higher earn 39% more than women with the same level of educational attainment.**

Note: Includes all full-time workers over age 15 with earnings. Some college includes less than 1 year of college; Some college, 1 or more years, no degree; Associate's degree; Professional certification. | Data Source: United States Census Bureau, American Community Survey PUMS | Analysis: Silicon Valley Institute for Regional Studies

### Percentage of Students Receiving Free or Reduced Price Meals

Santa Clara & San Mateo Counties, California



Over a third of Silicon Valley students age 5-17 received free or reduced price meals during the 2014-15 school year.

Data Sources: California Dept. of Education, Free/Reduced Price Meals Program & CalWORKS Data Files | Analysis: Silicon Valley Institute for Regional Studies

### Gender-Wage Disparity for Full-Time Workers

Average Dollars Earned by a Female Worker for Every Dollar Earned by a Male Worker

2014

	TOTAL	LESS THAN HIGH SCHOOL GRADUATE	HIGH SCHOOL GRADUATE (INCLUDES EQUIVALENCY)	SOME COLLEGE OR ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	GRADUATE OR PROFESSIONAL DEGREE
SILICON VALLEY	\$0.75	\$0.77	\$0.75	\$0.81	\$0.75	\$0.73
SAN FRANCISCO	\$0.82	\$0.95	\$0.95	\$0.80	\$0.81	\$0.73
CALIFORNIA	\$0.80	\$0.73	\$0.80	\$0.78	\$0.74	\$0.69
UNITED STATES	\$0.75	\$0.73	\$0.75	\$0.74	\$0.68	\$0.64

# ECONOMY

## INNOVATION & ENTREPRENEURSHIP

*Total venture capital investments continued to rise, and were highly influenced by several large San Francisco deals for the second year in a row. Patent registration totals were up 14% over 2014. IPO activity slowed in 2015, while Angel investments and M&A activity were on pace to exceed 2014 totals.*

### 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

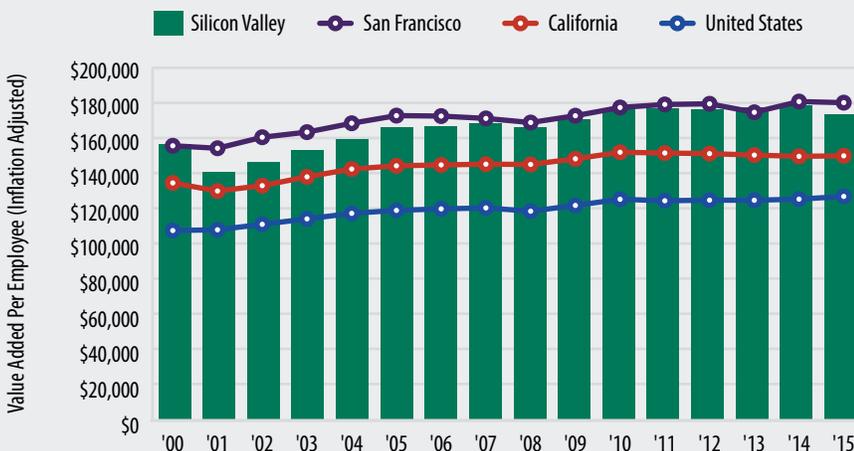
registrations track the generation of new ideas, as well as the ability to disseminate and commercialize these ideas. The activity of mergers and acquisitions (M&As) and initial public offerings (IPOs) indicate that a region is cultivating successful and potentially high-value companies. Growth in firms without employees indicates that more people are going into business for themselves.

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

### Value Added Per Employee

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



Data Source: Moody's Economy.com | Analysis: Silicon Valley Institute for Regional Studies

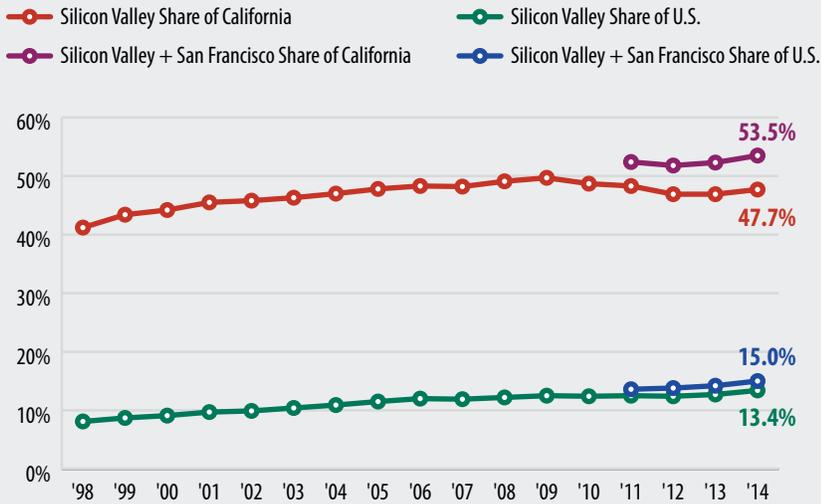
### Percent Change in Value Added Per Employee

	2000-2015	2005-2015	2014-2015
SILICON VALLEY	+11.0%	+4.5%	-2.9%
SAN FRANCISCO	+15.7%	+4.2%	-0.3%
CALIFORNIA	+11.4%	+3.9%	+0.2%
UNITED STATES	+18.0%	+6.6%	+1.2%

*Value added per employee declined by 2.9% in Silicon Valley between 2014 and 2015.*

## PATENT REGISTRATIONS

### Silicon Valley and San Francisco Share of California and U.S. Patents



Data Sources: United States Patent and Trademark Office; California Department of Finance | Analysis: Silicon Valley Institute for Regional Studies

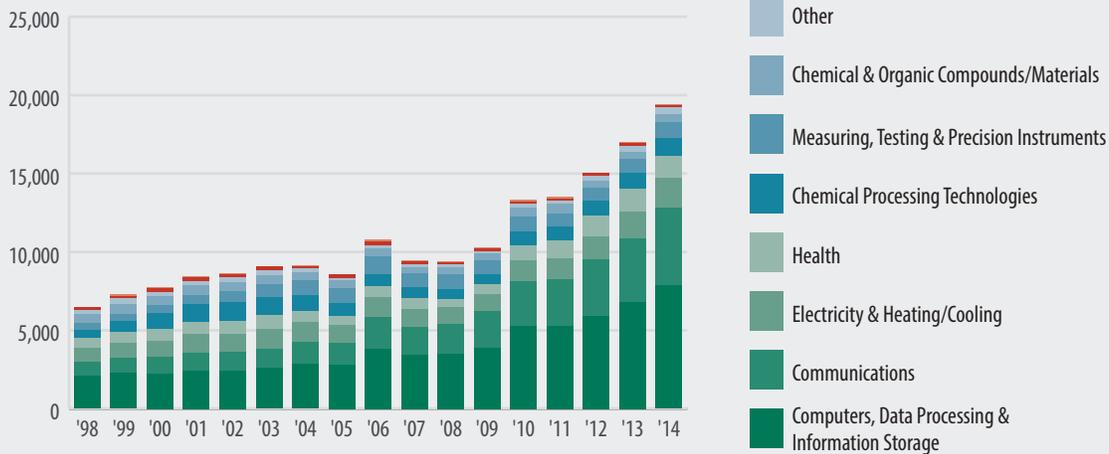
### Patents Granted per 100,000 People

	2011	2014	'11-'14 % CHANGE
SILICON VALLEY	476	655	+37.6%
SAN FRANCISCO	144	279	+94.4%
CALIFORNIA	75	106	+41.0%

*Silicon Valley's share of California and U.S. patents increased in 2014.*

### By Technology Area

Silicon Valley



Data Source: United States Patent and Trademark Office | Analysis: Silicon Valley Institute for Regional Studies

*The number of Silicon Valley patents in Computers, Data Processing & Information Storage doubled between 2009 and 2014.*

# ECONOMY

## INNOVATION & ENTREPRENEURSHIP

### HOW ARE WE DOING?

Silicon Valley labor productivity, or value added per employee, declined by 2.9% from an all-time high of \$178,739 in 2014 to \$173,549 in 2015. While Santa Clara and San Mateo Counties' combined regional gross domestic product (GDP) increased by 2.1% over that time period (after inflation-adjustment), the estimated 5.2% employment gains<sup>1</sup> outweighed the gains in GDP. San Francisco's labor productivity declined very slightly in 2014 (down -0.3% to \$179,527), while California and United States labor productivity increased over that time period (up 0.2% to \$149,500, and up 1.2% to \$126,561, respectively). Over the longer term, Silicon Valley labor productivity has increased significantly since the 1990s,

1. Employment gain estimates for Santa Clara and San Mateo Counties are from Moody's Economy.com using historical data through 2014 and forecasts updated on October 27, 2015.

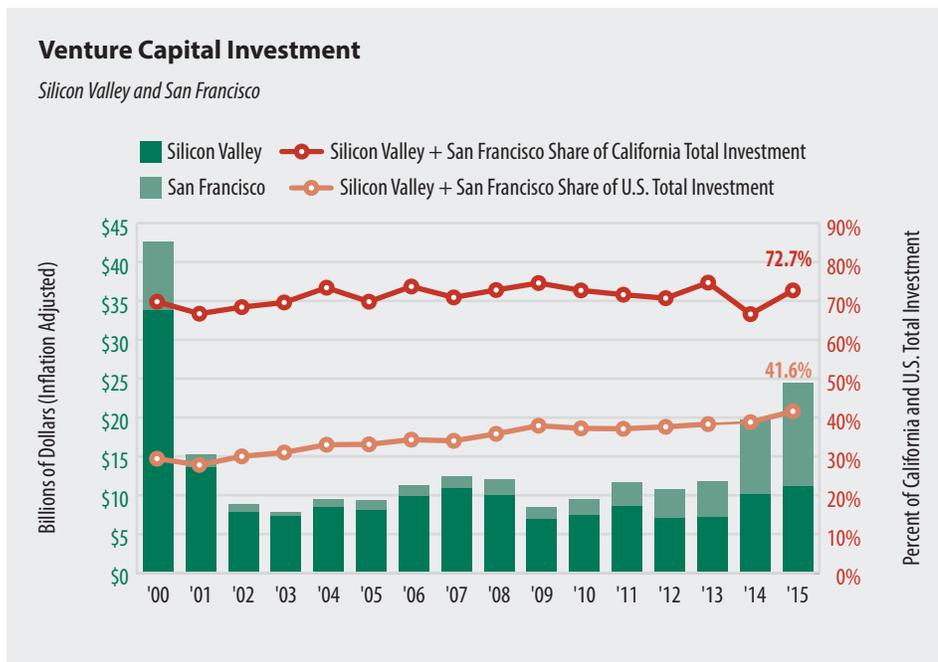
and is 11% higher than it was at the dot-com peak in 2000.

The number of Silicon Valley patent registrations continued to rise in 2014, reaching 19,414 in 2014 (up from 16,975 in 2013 and 15,065 in 2012). The largest share (40.5%) of the patents was in Computers, Data Processing and Information Storage, with a large share (25.6%) in Communications as well. The total number of Silicon Valley patents in Computers, Data Processing and Information Storage more than doubled since 2009, reaching 7,857 in 2014. Silicon Valley and San Francisco's combined share of California patent registrations increased slightly between 2013 and 2014 to 53.5%. The region's combined share of U.S. patent registrations increased from 14.2%

to 15.0% over the same period of time. The number of patents granted per capita in San Francisco nearly doubled between 2011 and 2014, while only increasing by 38% and 41% in Silicon Valley and California, respectively.

Venture capital investments in Silicon Valley and San Francisco, which shot up in 2014, further increased in 2015. Total 2015 VC investments for the region exceeded 2014 totals by \$4.7 billion, reaching \$24.5 billion (\$11.13 billion in Silicon Valley, and \$13.34 billion in San Francisco). This number represents the greatest amount of VC funding in any one year since 2000. In addition to an increase in total investment amounts, the region's share of California and U.S. VC funding increased between 2014 and 2015 (from 67% to 73%,

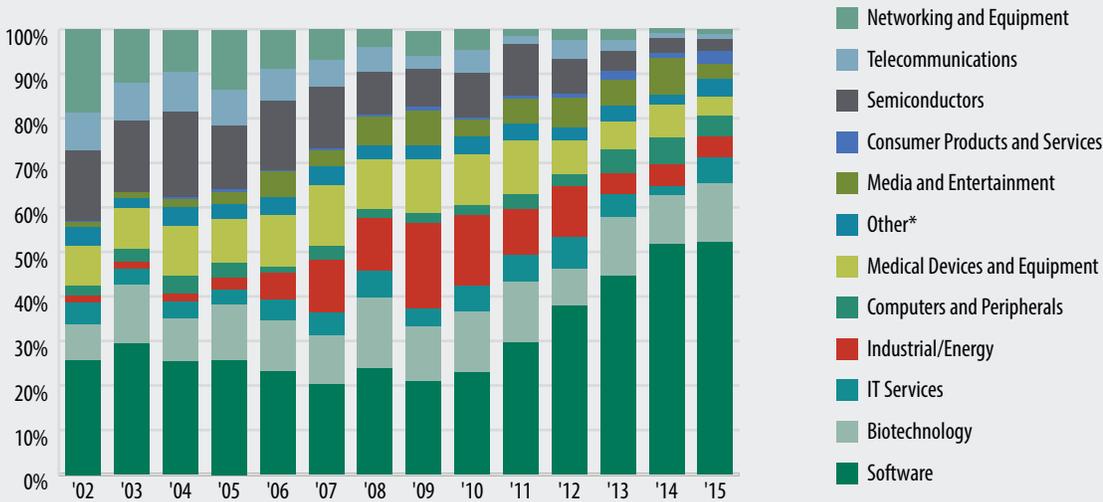
**2015 venture capital investment totals for Silicon Valley and San Francisco were higher than any other year since 2000.**



Data Source: PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ Report, Data: Thomson Reuters | Analysis: Jon Haveman, Marin Economic Consulting; Silicon Valley Institute for Regional Studies

### Venture Capital by Industry

Silicon Valley



**Software received 52% of total Silicon Valley venture capital investments.**

\*Other includes Healthcare Services, Electronics/Instrumentation, Financial Services, Business Products & Services, Other and Retailing/Distribution. | Data Source: PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ Report, Data: Thomson Reuters | Analysis: Jon Haveman, Marin Economic Consulting; Silicon Valley Institute for Regional Studies

### Top Venture Capital Deals of 2015

SILICON VALLEY			
Investee Company Name	City	Amount (millions)	Industry
Palantir Technologies Inc.	Palo Alto	\$450.0	Software
Palantir Technologies Inc.	Palo Alto	\$429.8	Software
Denali Therapeutics Inc.	South San Francisco	\$217.0	Biotechnology
Medallia Inc.	Palo Alto	\$150.3	Software
Auris Surgical Robotics Inc.	San Carlos	\$149.5	Industrial Energy
Tintri Inc.	Mountain View	\$124.6	Computers and Peripherals
View Inc.	Milpitas	\$121.3	Industrial Energy
Zuora Inc.	Foster City	\$115.0	Software
Zscaler Inc.	San Jose	\$110.0	Software
Apttus Inc.	Foster City	\$108.0	Software

SAN FRANCISCO		
Investee Company Name	Amount (millions)	Industry
Airbnb Inc.	\$1,500.0	Media and Entertainment
Uber Technologies Inc.	\$1,000.0	Software
Social Finance Inc.	\$1,000.0	Financial Services
LYFT Inc.	\$530.0	Software
Zenefits Insurance Services	\$500.0	Software
Pinterest Inc.	\$367.1	Media and Entertainment
GitHub Inc.	\$251.0	Software
Social Finance Inc.	\$213.0	Financial Services
Pinterest Inc.	\$186.0	Media and Entertainment
Slack Technologies Inc.	\$160.0	Software

Data Source: PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ Report, Data: Thomson Reuters | Analysis: Jon Haveman, Marin Economic Consulting; Silicon Valley Institute for Regional Studies

# ECONOMY

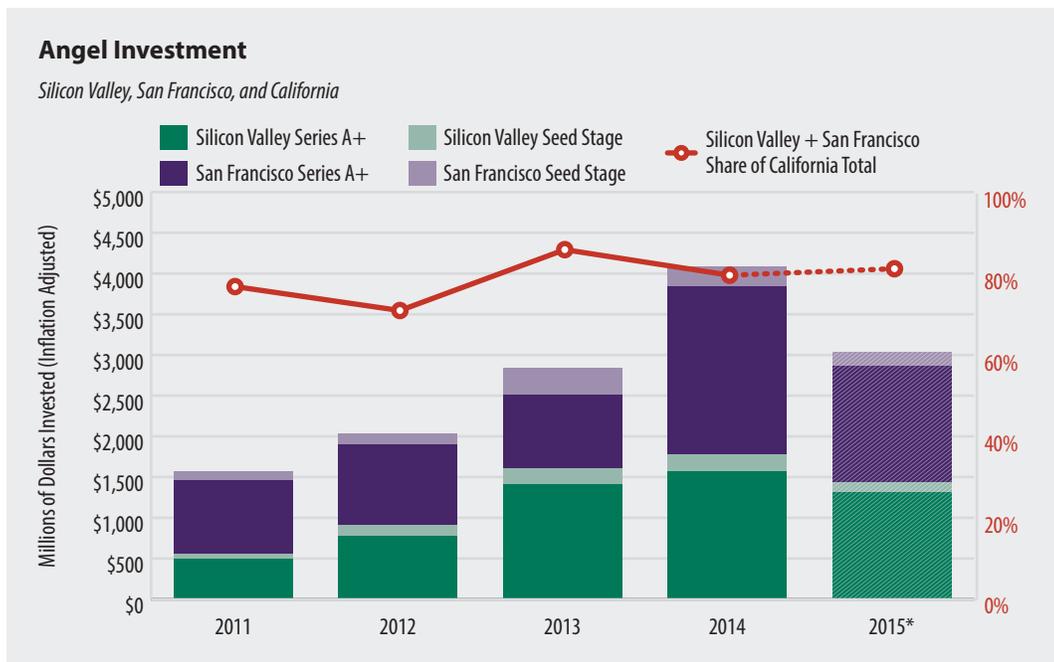
## INNOVATION & ENTREPRENEURSHIP

and from 39% to 42%, respectively). Silicon Valley's share of U.S. funding varied significantly by industry. For example, in Q3 2015, Silicon Valley received 94% of all U.S. VC funding in Computers and Peripherals, 64% of all U.S. Telecommunications funding, and 46% of all funding in Industrial/Energy, while accounting for less than 10% of U.S. VC funding in Medical Devices and Equipment, Media and Entertainment, and Consumer Products and Services.

More than half (52%) of all Silicon Valley 2015 VC investments were in Software – a share that has risen steadily over the past six years, from 21% in 2009. In comparison, only 47% of San Francisco VC funding went into Software. As the share of funding going into

Software has increased, the shares going into Industrial/Energy, Medical Devices and Equipment, and Networking and Equipment have decreased. In contrast to Software, much smaller shares of 2015 Silicon Valley VC investments went into Biotechnology (13%), IT Services (6%), Industrial/Energy (5%) and other industries. As was the case in 2014, the regional 2015 VC investment total was highly affected by the increasing number of large investment deals in San Francisco companies, including Airbnb (\$1.5 billion), Uber (\$1 billion), and Social Finance (\$1 billion). Among Silicon Valley and San Francisco companies, there were also eight more deals over \$200 million each.

## ANGEL INVESTMENT



*Angel investments in Silicon Valley and San Francisco represented 81.5% of the statewide total in 2015.*

\*2015 data is through Q3. | Data Source: CB Insights | Analysis: Silicon Valley Institute for Regional Studies

Angel investments in Silicon Valley in Q1-3 2015 were on pace to exceed 2014 totals, while San Francisco Angel investments may fall short of the 2014 high. In the first three quarters of 2015, Silicon Valley and San Francisco Angel investments reached \$1.4 and \$1.6 billion, respectively, amounting to a combined share of California Angel investments of 81.5%. Silicon Valley and California overall received a much larger share of Series A+<sup>2</sup> compared to Seed Stage investments in 2015, while San Francisco's 2015 proportion of Series A+ to Seed Stage Angel investment remained similar to the prior year.

There were 169 U.S. Initial Public Offerings in 2015, 106 fewer than in 2014. Of the 169

IPOs, 16 were Silicon Valley companies (seven fewer than the prior year) and six were San Francisco companies. Other California and U.S. (outside of California) companies accounted for 15 and 97, respectively, and international companies accounted for 35 of those IPOs. Despite the decline in the overall number of IPOs, Silicon Valley's share of California and U.S. IPO pricings increased from 40% to 43% and from 11% to 12%, respectively. The international companies that went public on U.S. stock exchanges in 2015 were primarily from China (17%), Canada (13%), Israel (13%), Belgium, the United Kingdom, and Australia (10% each), among 11 other countries.

<sup>2</sup> Series A+ rounds are typically led by institutional investors, such as traditional Venture Capital firms. Angels, however, may have the opportunity to participate in these rounds as follow-ons to their seed stage investment in companies.

### Angel Investment, by Stage

Silicon Valley, San Francisco, and California



92% of Silicon Valley Angel investments in 2015 were in Series A+ rounds.

\*2015 data is through Q3. | Data Source: CB Insights | Analysis: Silicon Valley Institute for Regional Studies

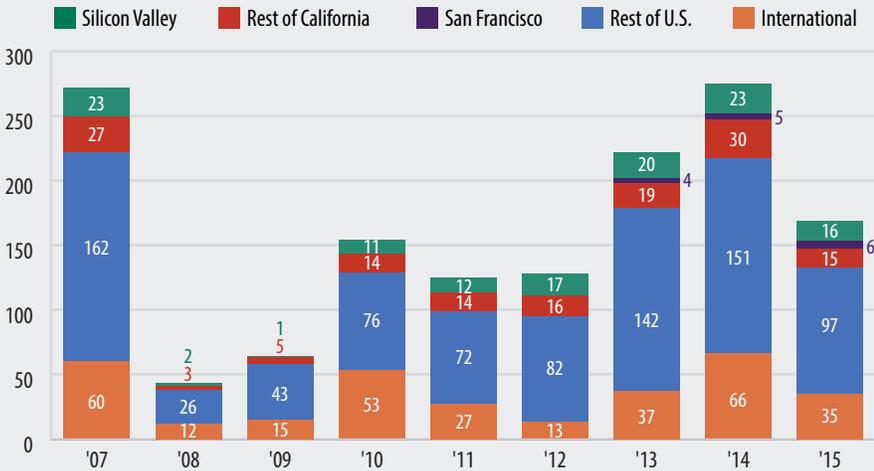
# ECONOMY

## INNOVATION & ENTREPRENEURSHIP

### Initial Public Offerings

Total Number of U.S. IPO Pricings

Silicon Valley, San Francisco, Rest of California, Rest of U.S., and International Companies



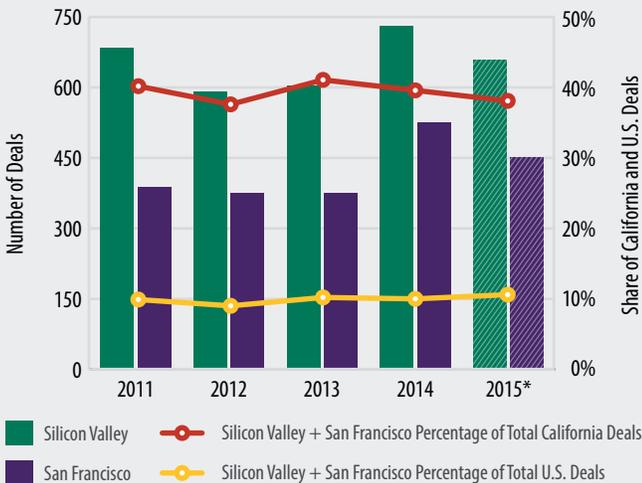
*There were fewer 2015 IPO pricings in Silicon Valley than during the previous two years.*

Note: Location based on corporate address provided by IPO ETF manager Renaissance Capital; 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 2013-2015. | Data Source: Renaissance Capital | Analysis: Silicon Valley Institute for Regional Studies

## MERGERS AND ACQUISITIONS

### Number of Deals and Share of California and United States Deals

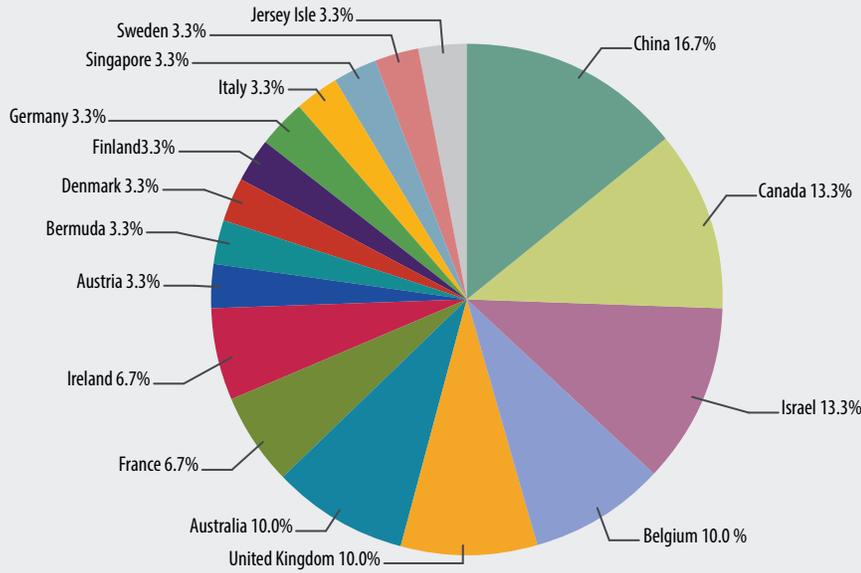
Silicon Valley and San Francisco



*Silicon Valley and San Francisco were on track to exceed the 2014 total number of M&A deals.*

\*Data is through the third quarter of 2015. | Note: Deals include Acquirers and Targets. | Data Source: FactSet Research Systems, Inc. | Analysis: Silicon Valley Institute for Regional Studies

**U.S. IPO Pricings of International Companies, by Country | 2015**

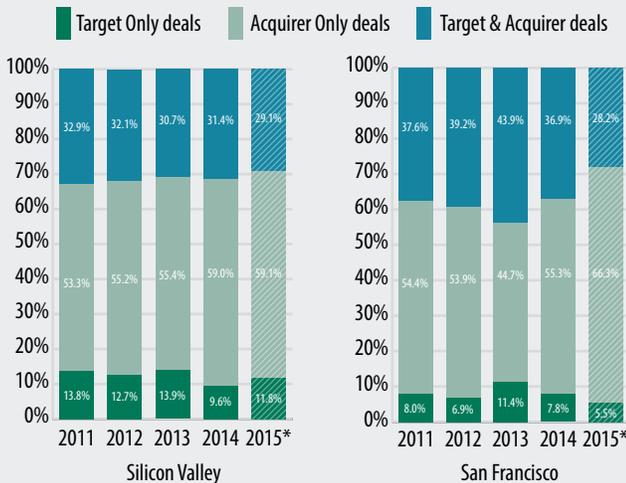


*The majority of International Companies going public on U.S. exchanges in 2015 were from China, Canada, and Israel.*

Note: Location based on corporate address provided by IPO ETF manager Renaissance Capital. | Data Source: Renaissance Capital | Analysis: Silicon Valley Institute for Regional Studies

**Percentage of Merger & Acquisition Deals by Participation Type**

*Silicon Valley and San Francisco*



*San Francisco acquisition activity increased by nine percentage points between 2014 and 2015.*

\*Data is through the third quarter of 2015. | Note: Deals include Acquirers and Targets. | Data Source: FactSet Research Systems, Inc. | Analysis: Silicon Valley Institute for Regional Studies

# ECONOMY

## INNOVATION & ENTREPRENEURSHIP

Silicon Valley and San Francisco were on pace to exceed 2014 merger and acquisition activity levels based on the number of deals in the first three quarters. During that time period, there were 660 M&A deals involving Silicon Valley companies, and 453 involving San Francisco companies (representing 115 more than during the first three quarters of the previous year). These numbers represent 25% and 7% of California and U.S. M&A deals, respectively. In Silicon Valley, the share of Target Only deals declined from 31% in 2014 to 29% in 2015, while the share of Target & Acquirer deals increased by two percentage points indicating that Silicon Valley is acquiring more of its own companies. In San Francisco, the share of Acquirer Only deals

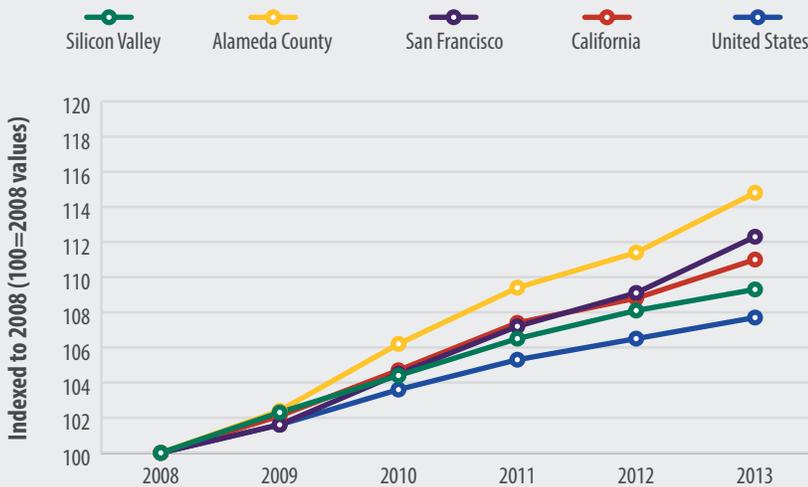
increased significantly in 2015, rising to 66% of all M&A deals from 55% the prior year. Most of this increase was compensated by a decrease in Target Only deals, down from 37% in 2014 to 28% in 2015.

The number of businesses without employees climbed steadily between 2008 and 2013, reaching over 192,000 in 2013. During that time period, the region's entrepreneurs started 16,308 more firms (+9.3%) in Silicon Valley and 9,730 (+12.3%) in San Francisco. In 2013, 25% of the region's nonemployer firms were in the Professional, Scientific & Technical Services sector, whereas this sector only encompassed 14% of firms without employees nationally, and 17% statewide.

### NONEMPLOYER TRENDS

#### Relative Growth of Firms Without Employees

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



Data Source: United States Census Bureau, Nonemployer Statistics | Analysis: Silicon Valley Institute for Regional Studies

#### Firms Without Employees in 2013

SILICON VALLEY	192,190
ALAMEDA COUNTY	124,216
SAN FRANCISCO	89,078
CALIFORNIA	2,983,996
UNITED STATES	23,005,620

*The number of nonemployer firms in Alameda County has grown rapidly since 2008.*

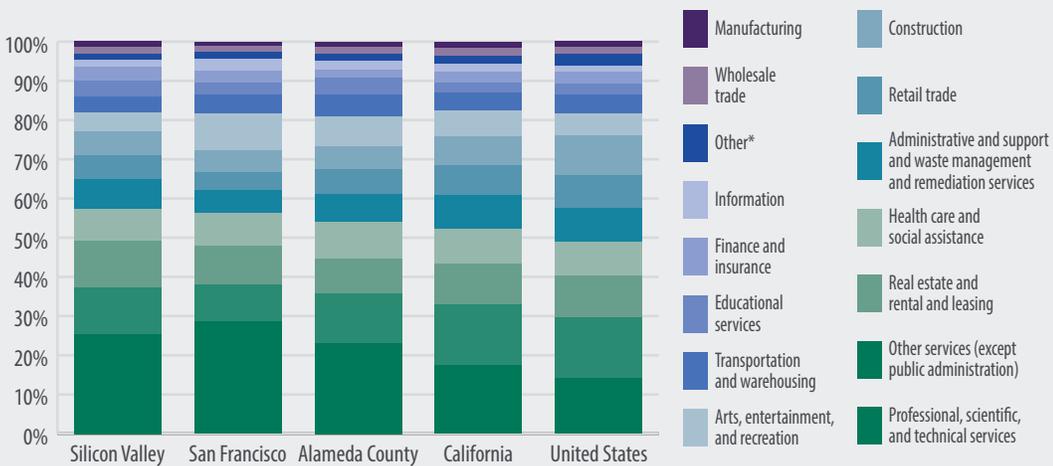
25%

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



**Percentage of Nonemployers by Industry, 2013**

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



\*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

# ECONOMY

## COMMERCIAL SPACE

*New construction of office space soars, and Silicon Valley revives new warehouse space construction; vacancy rates decline and commercial rents increase as demand outweighs supply.*

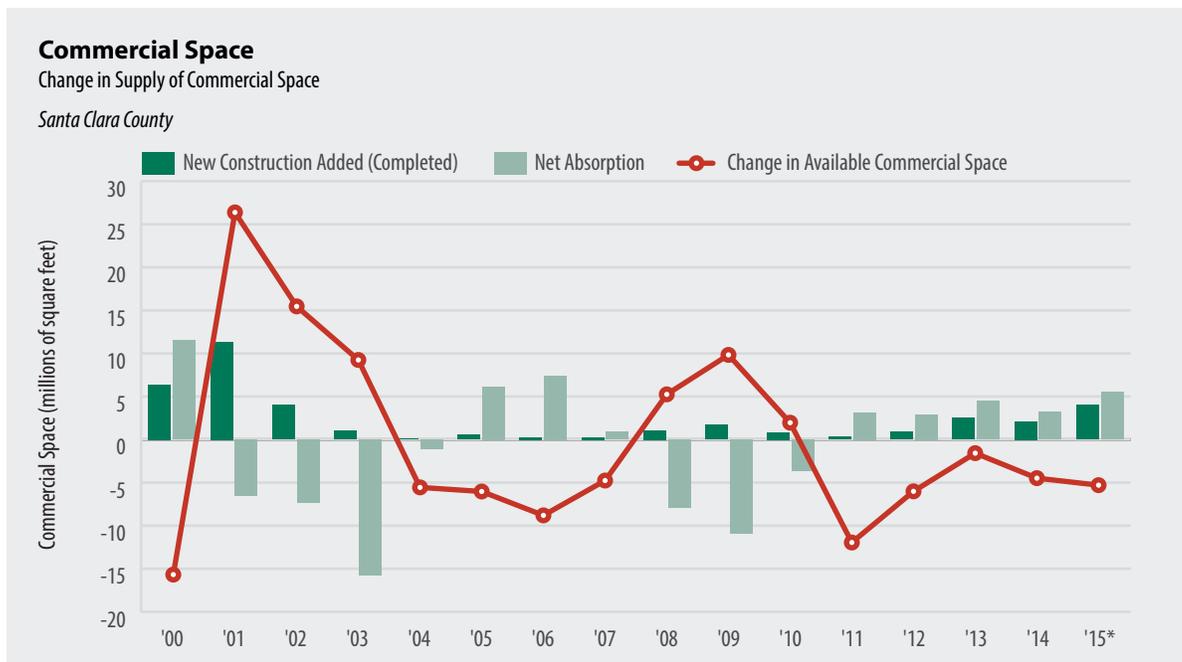
### WHY IS THIS IMPORTANT?

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, industrial and warehouse space. A negative change in the supply of commercial space suggests strengthening economic activity and tightening in the commercial real estate market. The change in supply of commercial space is expressed as the combination of new construction and the net absorption rate, which reflects the amount of space becoming available. The vacancy rate measures the amount of space that is not occupied. Increases in

vacancy, as well as declines in rents, reflect slowing demand relative to supply.

### HOW ARE WE DOING?

Available commercial space in Santa Clara County decreased slightly in 2015 (down 5.36 million square feet, from 27.4 million square feet in Q3 2014 to 22.1 million square feet in Q3 2015) despite the addition of more than four million square feet of (completed) new construction to the building inventory during the first three quarters of 2015. That amount of new construction was 89% more than in all of 2014 combined. Because the majority of Santa Clara County's new construction projects were either preleased or built-to-suit, vacancy rates



*Commercial space availability decreased slightly in 2015.*

→  
*Vacancy rates declined among all types of commercial space, in both counties.*

\*2015 data is through Q3. | Data Source: Colliers International | Analysis: Silicon Valley Institute for Regional Studies

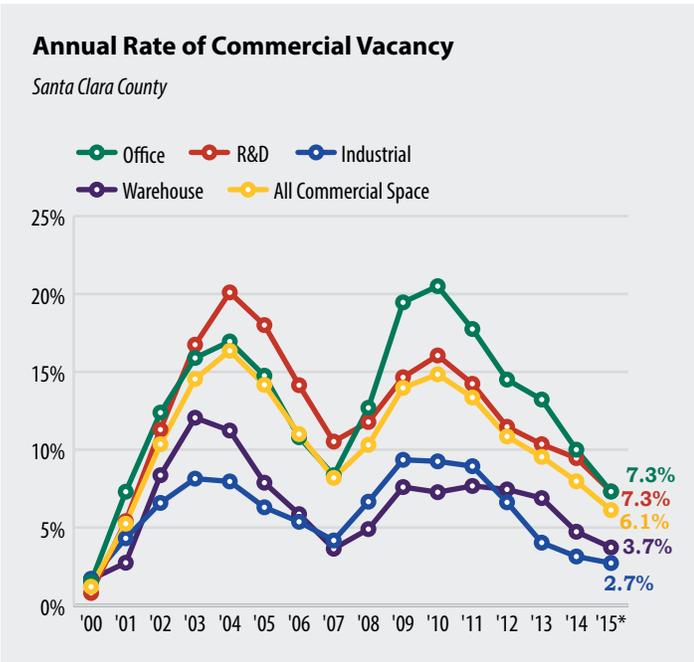
continued to decline as new buildings were completed. Vacancy rates declined from 8.0% in 2014 to 6.1% in 2015 in Santa Clara County (for all types of commercial space), with the most notable decline in office space, which fell from 10.0% vacancy in 2014 to 7.3% in 2015. Over that same time period, occupancy increased as well, with a net absorption (net change in occupancy) of over 5.5 million square feet for all product types. The decrease in available commercial space, decrease in vacancy, and corresponding increase in occupancy indicate a continued and growing demand for commercial space in Santa Clara County.

Just as commercial vacancy rates in Santa Clara County declined in 2015, San Mateo County office and R&D space vacancy rates fell as well (from 10.9% in 2014 to 7.9% in 2015 for office space, and from 7.3% to 3.5% over the same time period for R&D space). This decline follows a five-year trend, with peak vacancy rates in 2008-2009. Vacancy rate declines in Santa Clara and San Mateo Counties are due to high tenant demand, and are not surprising given the recent increases in regional employment levels.

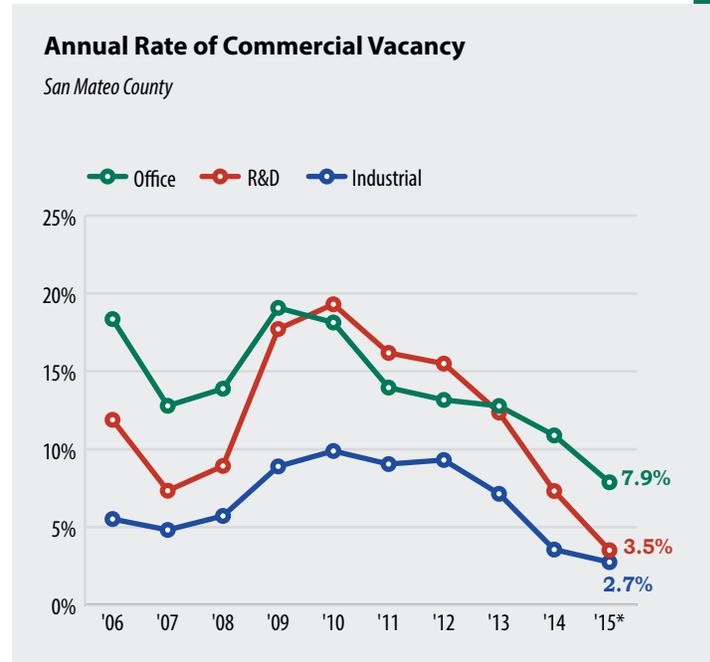
Annual average asking rents for office space in Santa Clara County<sup>1</sup> increased in 2015, following a four-year upward trend and

<sup>1</sup> Including Fremont

COMMERCIAL VACANCY



\*2015 data is through Q3. | Data Source: Colliers International | Analysis: Silicon Valley Institute for Regional Studies



\*2015 data is through Q3. | Data Source: Colliers International | Analysis: Silicon Valley Institute for Regional Studies

# ECONOMY

## COMMERCIAL SPACE

reaching \$3.75 per square foot, full-service, in Q3. Rental rates for R&D space spiked in 2015 to an average of \$1.68 per square foot, NNN,<sup>2</sup> in Santa Clara County (up 50% over 2014 rates), and \$2.84 per square foot, NNN, in San Mateo County (up 26% over 2014 rates). These rate increases are likely due to increased regional demand for commercial space and decreasing availability (low supply). Asking rents for Industrial and Warehouse space remained relatively low in 2015 – under \$1.00 per square

foot, NNN, in both counties. However, while remaining low, asking rents for Warehouse space in Santa Clara County did increase by nearly 11% between 2014 and 2015 due to the lack of supply coupled with increased demand.

Santa Clara County's lack of Warehouse space relative to supply is due to a 13-year gap in new development. For the first time since 2001, Warehouse space in Santa Clara County (including Fremont) was constructed (completed) in 2015. At a time of such high

demand, all 860,000 sq. ft. of new warehouse construction projects were claimed by new tenants before completion (notably including a total of 590,000 sq. ft. leased by Living Spaces, Apple, and Pivot Interiors in Fremont).<sup>3</sup> There was also a significant amount of new Santa Clara County<sup>4</sup> office space completed during the first three quarters of 2015, totaling 3.14 million square feet – representing more office space development in any single year since 2001.

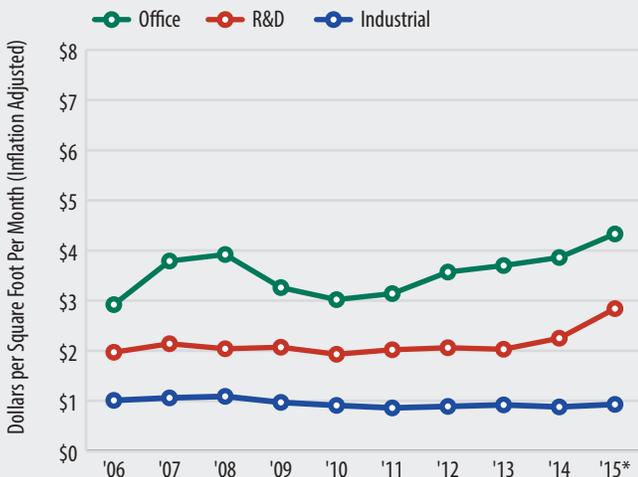
2. A triple net lease structure, where the tenant pays expenses

3. According to the Colliers International San Jose/Silicon Valley, Market Report and Forecast, 2014-2015.  
4. Including Fremont

## COMMERCIAL RENTS

### Annual Average Asking Rents

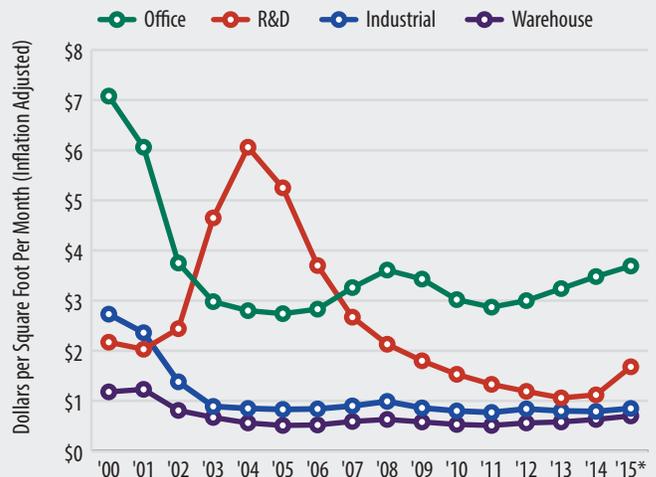
San Mateo County



\*2015 data is through Q3. | Note: Santa Clara County data includes Fremont. | Data Source: Colliers International | Analysis: Silicon Valley Institute for Regional Studies

### Annual Average Asking Rents

Santa Clara County

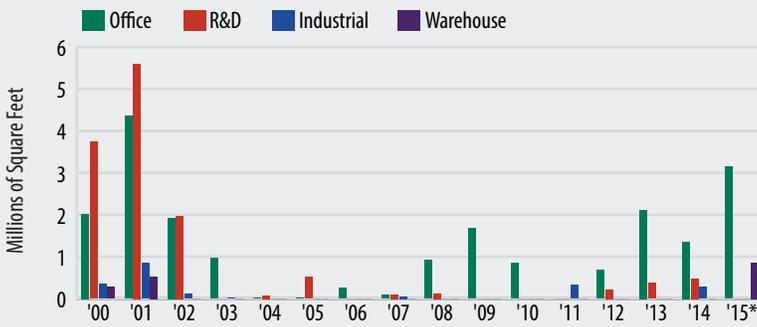


\*2015 data is through Q3. | Note: Santa Clara County data includes Fremont. | Data Source: Colliers International | Analysis: Silicon Valley Institute for Regional Studies

**New Commercial Development**

By Sector

Santa Clara County



*New development of office space skyrocketed in 2015; warehouse space was built for the first time since 2001.*

\*2015 data is through Q3. | Note: Santa Clara County data includes Fremont. | Data Source: Colliers International | Analysis: Silicon Valley Institute for Regional Studies

*Commercial asking rents for R&D space in Santa Clara County increased by nearly 50% in 2015.*



# SOCIETY

## PREPARING FOR ECONOMIC SUCCESS

*Silicon Valley high school graduation rates and the share who meet UC/CSU requirements improved in the 2013-14 school year, while success continued to vary significantly by race and ethnicity.*

### 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.

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 and science, which is correlated with later academic success. Breaking down high school dropout rates by ethnicity sheds light on the inequality of educational achievement in the region.

### HOW ARE WE DOING?

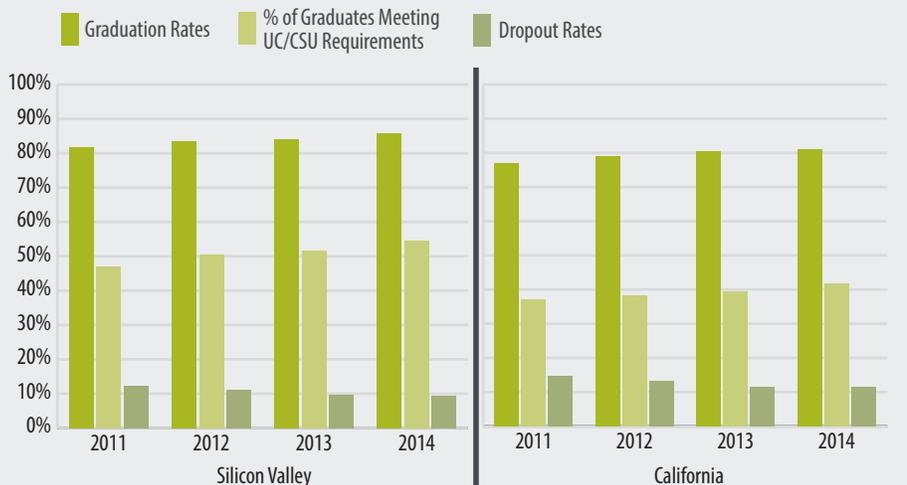
Graduation rates for the 2013-14 school year increased by two percent in Silicon Valley (to 86%) and by one percent in the state (to 81%). The share of graduates meeting UC/CSU requirements increased as well, up three percentage points in both Silicon Valley and the state (to 55% and 42%, respectively).

## GRADUATE AND DROPOUT RATES

### High School Graduation and Dropout Rates

Rate of Graduation, Share of Graduates Who Meet UC/CSU Requirements, and Dropout Rate

Silicon Valley and California, 2011-2014



*Silicon Valley high school graduation rates and the share of students meeting UC/CSU requirements have increased steadily since 2011.*

Note: Graduation and dropout rates are four-year derived rates. | Data Source: California Department of Education | Analysis: Silicon Valley Institute for Regional Studies

Dropout rates, however, remained relatively unchanged in the 2013-14 school year (changing less than a fifth of a percentage point in both geographies).

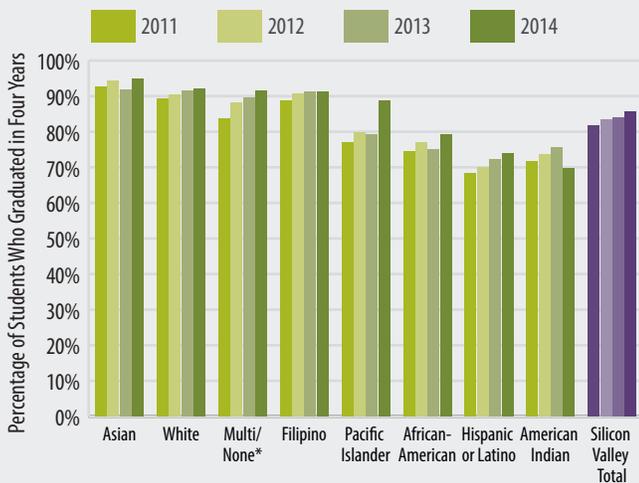
Both high school graduation rates and the percentage of graduates who meet UC/CSU entrance requirements in Silicon Valley vary greatly between students of different races/ethnicities. While 95% of Asian students and 92% of White students graduated from high school in 2013-14, only 74% of Hispanic or Latino and 70% of American Indian or Alaska Native students did. And while 78% of Asian graduates in 2013-14 met UC/CSU

requirements, only 31% of Hispanic or Latino and 32% of Pacific Islander students did. The 2013-14 school year did mark a significant increase in the share of African-American graduates who met UC/CSU requirements, up to 38% from 27% the year prior. This sharp increase was observed across Santa Clara County, San Mateo County, and southern Alameda County school districts. The increase may be due to changes in Silicon Valley's population composition in addition to improving achievement of existing residents, while the large percent change from year to year may be partially due to the relatively small number

### High School Graduation Rates

by Race and Ethnicity

Silicon Valley, 2011-2014



*High school graduation rates vary by ethnicity, with Asian students eight percentage points above the regional average.*

\*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. | Note: Graduation rates are four-year derived rates. | Data Source: California Department of Education | Analysis: Silicon Valley Institute for Regional Studies

# SOCIETY

## PREPARING FOR ECONOMIC SUCCESS

of Black or African-American students (representing less than 3% of Silicon Valley high school graduates in 2014). Between the 2012-13 and 2013-14 school years, there was also an increase in Hispanic or Latino graduation rates (up from 72.2% to 73.9%) and the share who met UC/CSU requirements (up from 27.5% to 30.7%).

Beginning in the 2012-13 school year, the California Department of Education stopped requiring the Algebra I California Standards

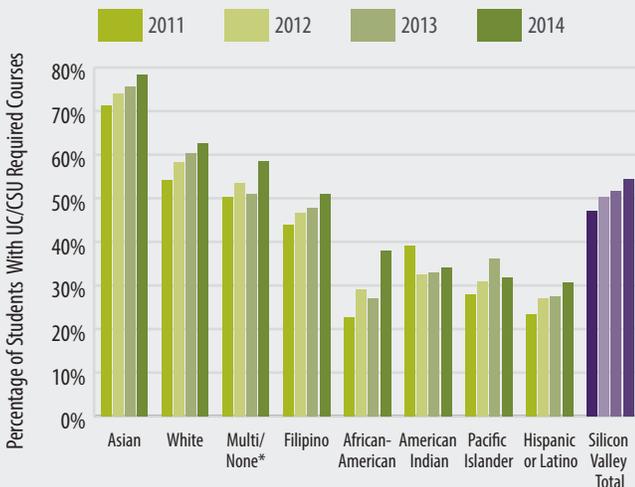
Test (CST) for eighth-graders, and began testing them in science. In Silicon Valley, 71% of eighth-graders during the 2013-14 school year tested At or Above Proficient, compared to 63% throughout the state. These percentages represent a decline from the prior year scores, which were several percentage points higher.

### GRADUATE AND DROPOUT RATES *continued*

#### Share of Graduates Who Meet UC/CSU Requirements

by Race and Ethnicity

Silicon Valley, 2011-2014



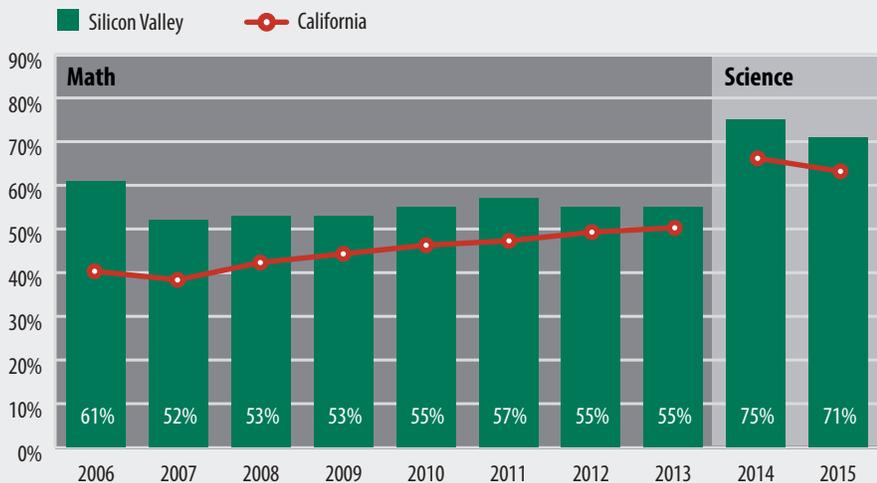
*The share of students meeting UC/CSU requirements increased for nearly all racial/ethnic groups.*

\*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. | Data Source: California Department of Education | Analysis: Silicon Valley Institute for Regional Studies

### Math and Science Scores

Percentage of Eighth Graders Who Scored at Proficient or Above on CST Algebra I & Science Tests

Santa Clara & San Mateo Counties, and California



*Silicon Valley and statewide eighth grade science proficiency declined between 2014 and 2015.*

Note: Beginning with the 2013-14 school year, the California Department of Education stopped administering the CST Algebra I test and began testing eighth-graders in science. | Data Source: California Department of Education | Analysis: Silicon Valley Institute for Regional Studies

# SOCIETY

## EARLY EDUCATION

*A higher share of Silicon Valley and San Francisco 3- to 4-year olds attends private preschools than in the state or nation. Preschool enrollment rates in San Francisco are much higher than in Silicon Valley.*

### 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.

### HOW ARE WE DOING?

In 2014, 59% of Silicon Valley's three- and four-year-olds were enrolled in private or public school. This share is four percentage points higher than the prior year, but more than two percentage points below the recent peak in 2011 (62% enrollment). Preschool enrollment rates are much higher in San Francisco, at 72%

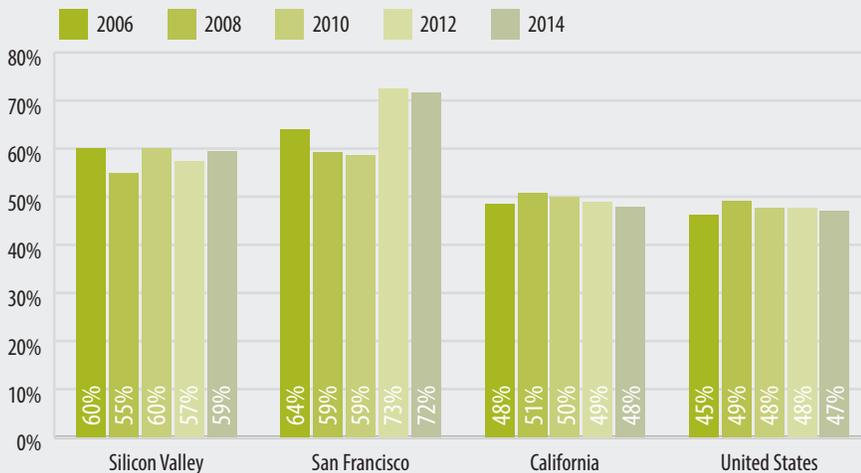
in 2014. State and national rates increased slightly between 2013 and 2014, up less than one percentage point each to 48% and 47%, respectively.

Thirty-seven percent of Silicon Valley three- and four-year-olds attended private school in 2014, while only 22% were enrolled in public school. Likewise, more than twice as many San Francisco preschoolers are enrolled in private school versus public school. Statewide, on the other hand, more three- and four-year-olds attended public school (27%) than private school (21%), but the majority (52%) were not enrolled in school at all. Nationwide trends are similar to the state, illustrating the difference in early education between Silicon Valley and its surroundings.

## PRESCHOOL ENROLLMENT

### Percentage of the Population 3 to 4 Years of Age Enrolled in School

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

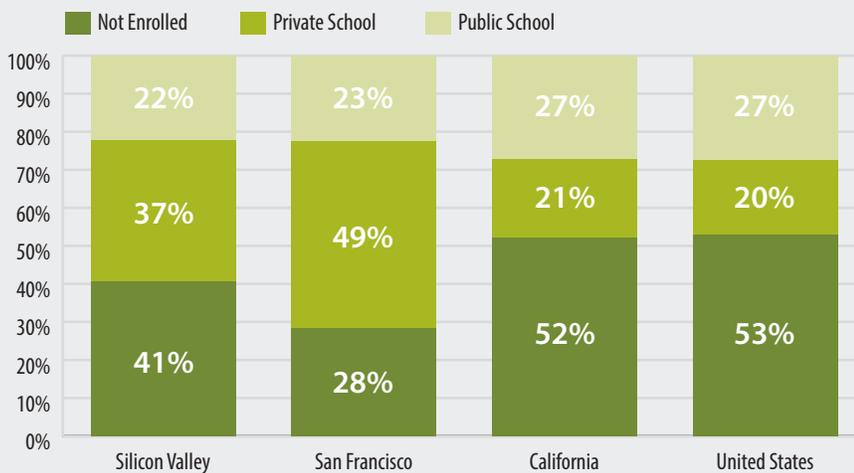


*Preschool enrollment rates in San Francisco are higher than in Silicon Valley, and much higher than in California or the United States.*

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

### Percentage of Population 3 to 4 Years, by School Enrollment

Santa Clara & San Mateo Counties, San Francisco, California, and the United States | 2014



*A greater share of Silicon Valley and San Francisco parents enroll their children in private preschool than in the state or the nation.*

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

# SOCIETY

## ARTS AND CULTURE

*Silicon Valley and San Francisco residents spend more on arts and culture consumption than in many other regions across the United States.*

### 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.

Attending events and attractions are ways in which the community participates 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

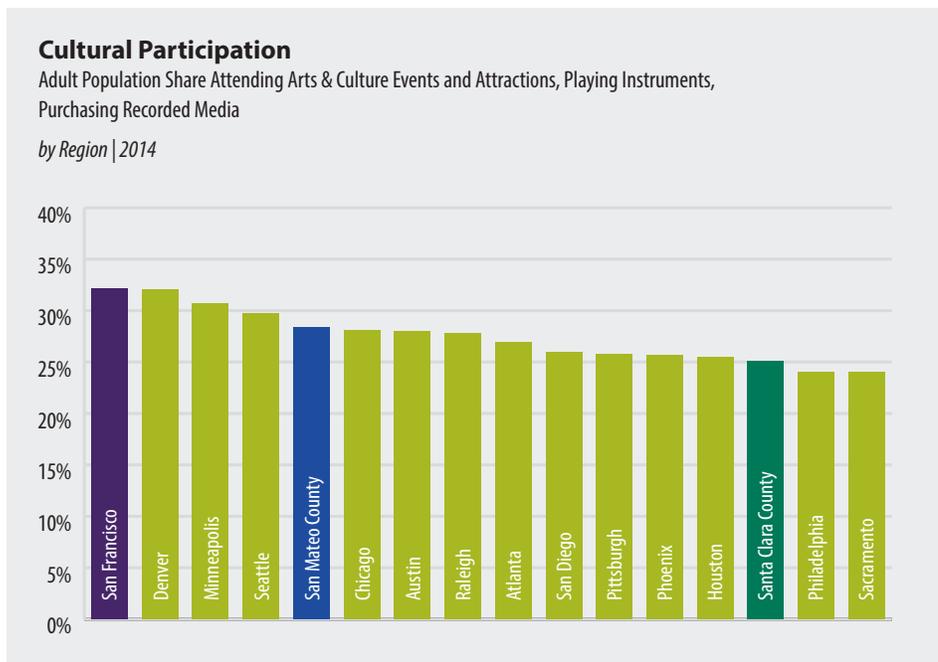
values the arts and is willing to support it. And, the number of solo artists captures the extent to which the arts are thriving in a community and provides an indicator of arts entrepreneurs.

### HOW ARE WE DOING?

Thirty-two percent of San Francisco adults attend arts and culture events and attractions, including zoos, museums, concerts, live performing arts, movies, and purchasing music media. This compares to 28% in San Mateo County and 26% in Santa Clara County. And while San Francisco's residents also spend more on average than Silicon Valley residents annually on arts and culture (\$526), it is not a large margin over Santa Clara County (\$467) or San Mateo County (\$488). The difference

is due, in large part, to the higher amount that San Francisco residents spend on reading materials. Annual expenditures on arts and culture are higher in both Silicon Valley and San Francisco than in many other regions across the country.

The share of households donating to public broadcasting or arts declined between 2011 and 2014 in Santa Clara County (from 30% in 2011 to 28% in 2014), San Mateo County (from 34% to 28%), and in San Francisco (from 37% to 35%). However, over a similar time period (2011-2013), the number of solo artists increased across all three counties (reaching 203, 288, and 779 per 100,000 residents in Santa Clara County, San Mateo County, and San Francisco, respectively).



*More than a quarter of Silicon Valley adults attend arts and culture events and attractions, play musical instruments, and/or purchase recorded media.*

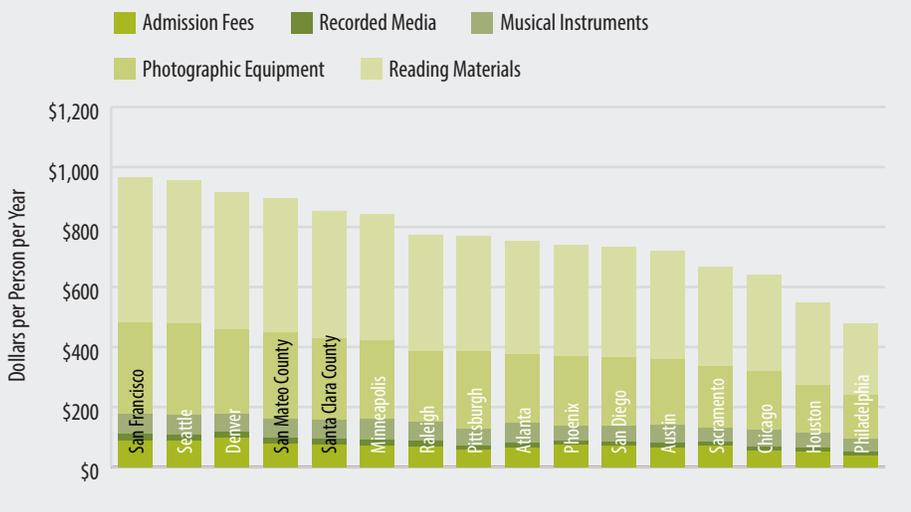
→  
*The share of Silicon Valley households donating to the arts declined between 2011 and 2014.*

Note: Cultural participation data were collected between 2012 and 2014. | Data Source: Americans for the Arts; Scarborough Research | Analysis: Silicon Valley Institute for Regional Studies

### Consumer Expenditures

Annual Consumer Expenditures on Arts & Culture Consumption

by Region | 2015



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

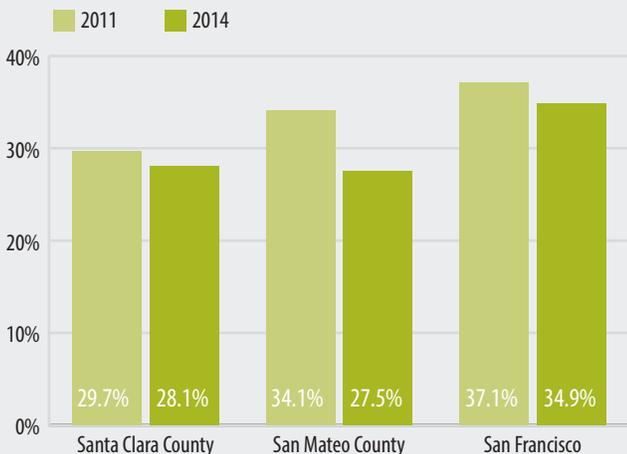
Data Source: Americans for the Arts | Analysis: Silicon Valley Institute for Regional Studies

*San Francisco has 3-4 times more solo artists per capita than Silicon Valley.*

### Arts Donations

Share of Households Donating to Public Broadcasting or Arts

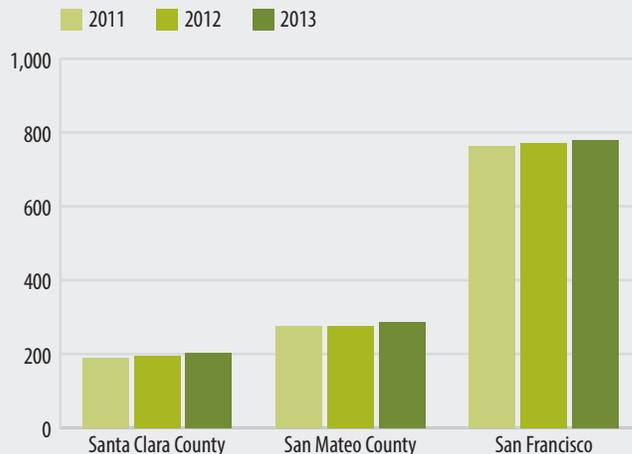
2011 & 2014



### Solo Artists

Solo Artists per 100,000 Population

2011 - 2013



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

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

# SOCIETY

## QUALITY OF HEALTH

*The share of residents ages 18-64 covered by health insurance skyrocketed in Silicon Valley, San Francisco, California, and across the nation, particularly for those who are unemployed.*

### 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.

### HOW ARE WE DOING?

There was a sharp increase in health insurance coverage in Silicon Valley, San Francisco, California and across the nation in 2014, particularly for the population ages 18 to 64. Between 2013 and 2014, the share of covered 18- to 64-year-olds increased by five percentage points in Silicon Valley (compared to three, seven, and four percentage points in San Francisco, California, and the U.S., respectively) to 90%. Additionally, the share of unemployed residents ages 18-64 covered

by health insurance increased by 14 percentage points, from 64% in 2013 to 78% in 2014. These increases followed a significant (but lesser) increase in coverage between 2012 and 2013 that was likely related to the Low Income Health Program (LIHP) – an early coverage expansion program administered prior to implementation of the 2010 Patient Protection and Affordable Care Act (ACA, also known as Obamacare). LIHP enrolled over 30,000 Silicon Valley residents in Medi-Cal by the end of 2013.<sup>1</sup> The 2014 data was highly influenced by ACA coverage, which became effective on January 1, 2014 for the earliest enrollees.

1. California Department of Health Care Services, Low Income Health Program Enrollment Data, Quarter 2 of Fiscal Year 2013-2014.

## HEALTH INSURANCE COVERAGE

### Share of the Population Ages 18-64 with Health Insurance Coverage

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



### Percentage of Individuals with Health Insurance, by Age and Employment Status

*Santa Clara & San Mateo Counties, 2014*

	Unemployed	Employed	Not In Labor Force
AGE 18-64	78%	92%	89%
AGES 65+	97%	99%	98%

### Change in the Percentage of Individuals with Health Insurance, by Age and Employment Status

*Santa Clara & San Mateo Counties, 2013-2014*

	Unemployed	Employed	Not In Labor Force
AGE 18-64	+14%	+4%	+5%
AGES 65+	0%	+1%	-1%

*The share of Silicon Valley residents ages 18-64 with health insurance coverage skyrocketed in 2014.*

*Between 2013 and 2014, the share of unemployed 18- to 64-year-olds with health insurance coverage jumped up by fourteen percentage points.*

Adult obesity rates have been increasing in Silicon Valley and throughout the state. While Silicon Valley obesity rates (21% in 2014) are lower than in California as a whole (27%), the region has a higher share of overweight adults

(38% compared to 36% in California). Silicon Valley's youth also exhibit lower obesity rates than in the state overall (33% compared with 38% of 5th, 7th, and 9th grade students, combined, during the 2014-2015 school year).

### Adults Overweight or Obese

Percentage of Adults Who Are Overweight Or Obese

Santa Clara & San Mateo Counties, and California



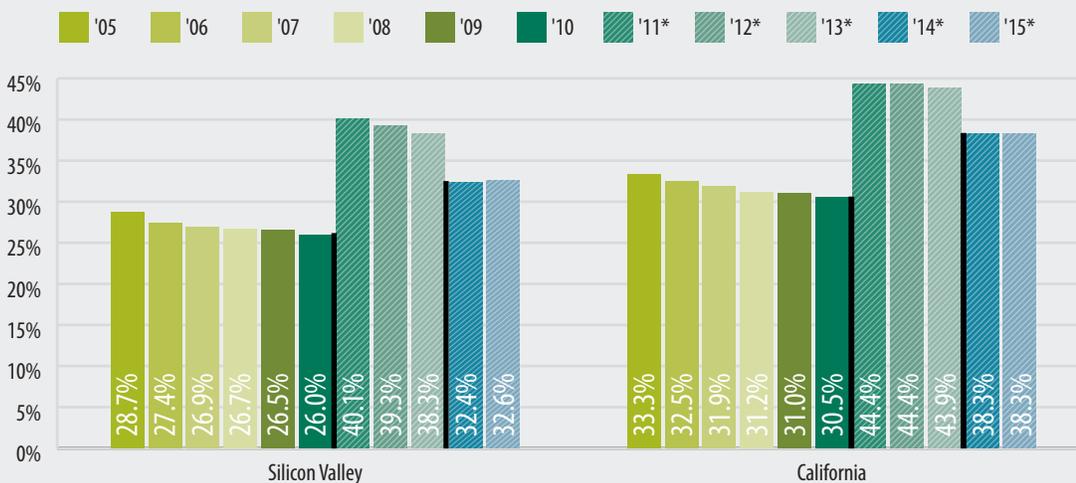
59% of Silicon Valley adults are overweight or obese, compared to 63% throughout the state.

Note: Starting in 2011, CHIS transitioned from a biennial survey model to a continuous survey model. | Data Source: California Health Interview Survey (CHIS) | Analysis: Silicon Valley Institute for Regional Studies

### Students Overweight or Obese

Percentage of Student Population that is Overweight or Obese

Santa Clara & San Mateo Counties, and California



One third of Silicon Valley students are overweight or obese.

\*Methodology for physical fitness testing by the California Department of Education was modified in 2011 and again in 2014; the 2011-2013 and 2014-2015 data cannot be used for comparison purposes with each other, or with data from previous years. | Data Sources: California Department of Education, Physical Fitness Testing Research Files; kidsdata.org | Analysis: Silicon Valley Institute for Regional Studies

# SOCIETY

## SAFETY

*Violent crime and felony offense rates continued to decline in Silicon Valley; the number of public safety officers remained steady.*

### 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.

### HOW ARE WE DOING?

Violent crime rates in Silicon Valley (231 crimes per 100,000 people annually in 2014) were lower than throughout the state (395 per

100,000), and have declined steadily since the most recent peak in 2007 (323 per 100,000). The majority of Silicon Valley's violent crimes are aggravated assault (55.5%), followed by robbery (33%), forcible rape (10.7%), and homicide (0.8%). Silicon Valley felony offense rates are also lower than the state for adults (783 offenses for every 100,000 adults in 2014, compared to 1,391 per 100,000) and juveniles (276 offenses per 100,000 juveniles, compared to 302 per 100,000). Felony offense rates have been declining in Silicon Valley since the recent peak in 2008 (1,211 offenses per 100,000 adults, and 645 offenses per 100,000 juveniles).

The number of public safety officers in Silicon Valley, which had fallen consistently year over year between 2009 and 2013 (-11.6% to 4,170), increased dramatically in 2014 (up 17.4% to 4,897 since 2013) then remained relatively steady between 2014 and 2015. The majority of the losses between 2009 and 2013 were in Santa Clara County, which accounted for 82% of the 545 officers. Santa Clara County also accounted for the majority (65%) of the gains (+727) in public safety officers between 2013 and 2014. Between 2014 and 2015, despite a population growth rate of more than one percent, the total number of public safety officers increased by a mere eight employees (+0.2%); however, 2015 marked the greatest number public safety officers in the region for more than a decade.

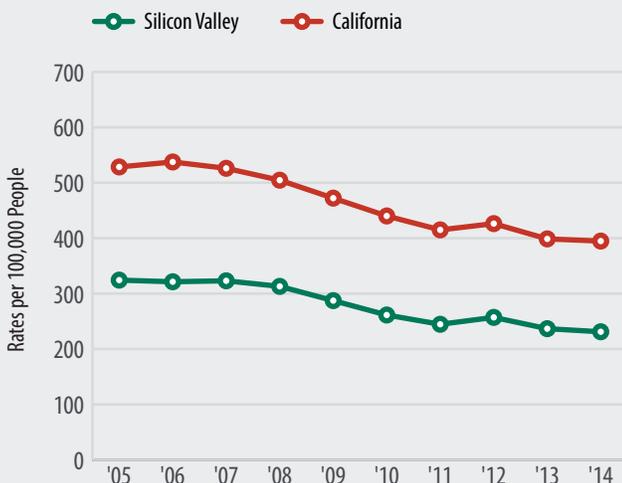
↓ *The rate of violent crimes in Silicon Valley and California decreased slightly in 2014.*

↓ *88% of violent crimes in Silicon Valley are aggravated assault or robbery.*

## VIOLENT CRIMES

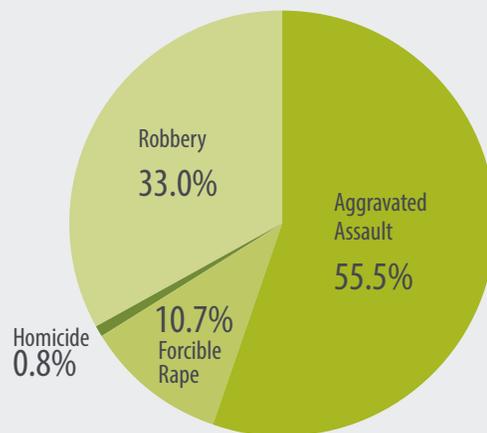
### Violent Crime Rate

*Silicon Valley and California*



### Breakdown of Violent Crimes By Type

*Silicon Valley | 2014*



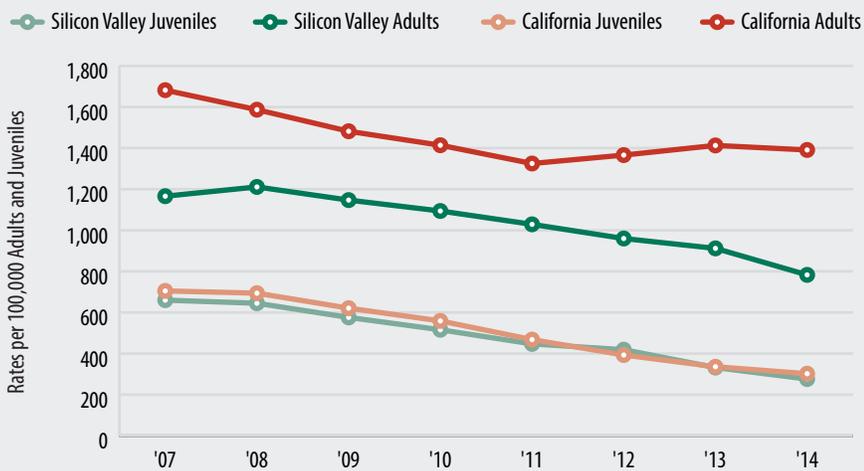
Note: Violent crimes include homicide, forcible rape, robbery and aggravated assault. | Data Source: California Department of Justice; California Department of Finance | Analysis: Silicon Valley Institute for Regional Studies

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



The felony offense rate for juveniles in Silicon Valley declined by 17% between 2013 and 2014.

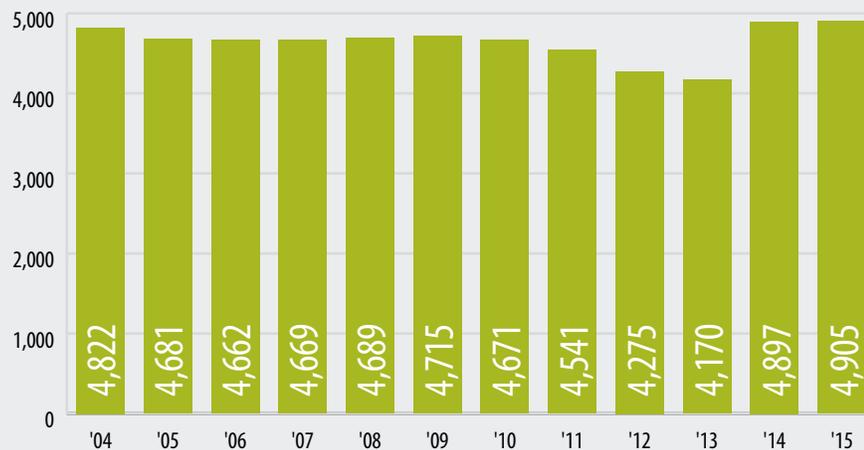
Data Sources: California Department of Justice; United States Census Bureau | Analysis: Silicon Valley Institute for Regional Studies

### PUBLIC SAFETY OFFICERS

#### Public Safety Officers

Total Number of Public Safety Officers

Silicon Valley



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

2009-2013	-545
2013-2014	+727
2014-2015	+8

The total number of public safety officers in Silicon Valley remained steady between 2014 and 2015.

Data Source: California Commission on Peace Officer Standards and Training | Analysis: Silicon Valley Institute for Regional Studies

# PLACE

## HOUSING

*Low housing inventory is driving up prices, making it more difficult for first-time homebuyers to afford a median-priced home. Income gains were not enough to accommodate home price and rental rate increases. Fewer housing units were permitted than in previous years, with a declining share of multi-family units. Household size is increasing, as is the share of multigenerational 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 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. 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.

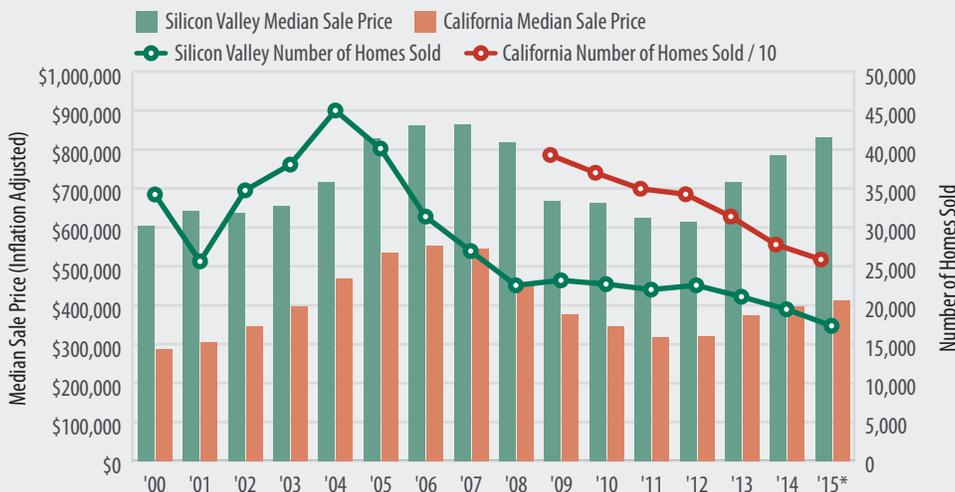
### HOW ARE WE DOING?

Silicon Valley home prices continued a three-year upward trend, reaching a median sale price of \$830,000 in 2015 – more than double the median sale price in California as a whole (\$411,000) – representing a nearly 6% increase over the prior year (compared to an increase of less than 4% throughout the state). As home prices have continued to rise, the number of homes sold in Silicon Valley has decreased (down 11% between 2014 and 2015, and down 23% since the most recent peak in 2012). Correspondingly, the inventory

### Trends in Home Sales

Median Sale Price and Number of Homes Sold

San Mateo and Santa Clara Counties, and California



*Median inflation-adjusted home prices in Silicon Valley rose by 5.9% between 2014 and 2015.*

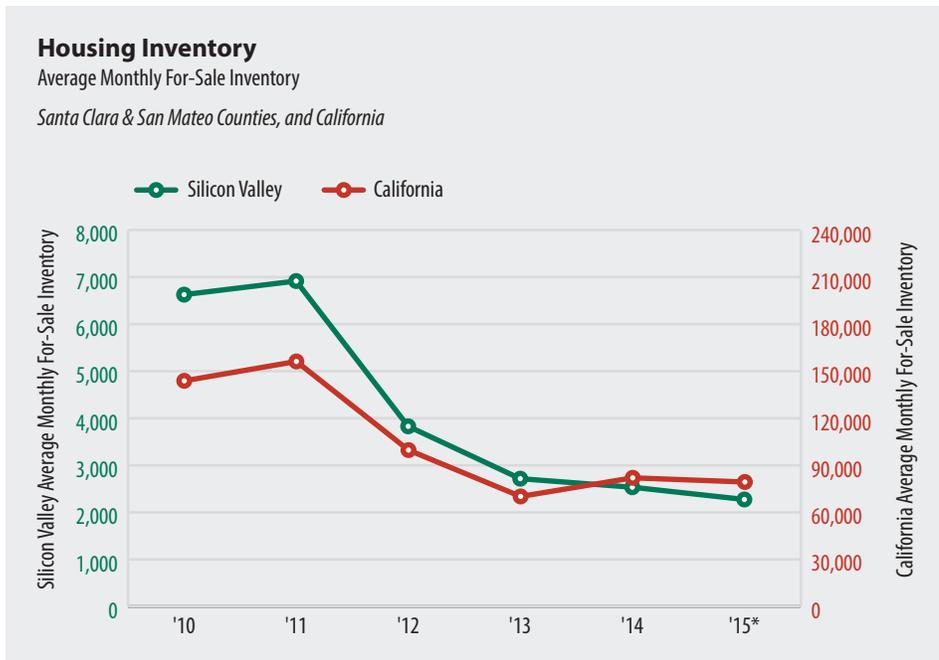
\*Median sale prices and forecasted annual home sales are based on 2015 data through October. | Data Source: Zillow Real Estate Research | Analysis: Silicon Valley Institute for Regional Studies

of homes listed for sale has declined significantly since the peak in 2011 (down 67% in Silicon Valley and 49% throughout the state), as well as over the past year (-10% in Silicon Valley, and -3% in California).

Increasing home prices are highly affected by the limited supply of existing housing and the amount of residential building occurring in Silicon Valley. The number of residential units included in Silicon Valley (Santa Clara and San Mateo Counties) building permits declined for the first year following a three-year upward trend. The number of units permitted in 2015 was estimated at 5,559, representing less than half the number of units permitted in the prior year (11,372 in 2014). Additionally, multi-family units represented a much smaller share of total

units in 2015 (62.5%) than in 2014 (83.0%). A return toward more residential development and an increasing share of multi-family units will be needed in order to meet the housing needs of the region's growing population.

Comparing the number of units being developed (units in building permits issued) with the number of units that are actually needed to accommodate the region's growing population provides an estimate of the housing shortage. The data suggests a shortage of nearly 25,000 units in Silicon Valley (Santa Clara and San Mateo Counties) since 2007, taking into consideration rising household sizes. Average household size should be going down as birth rates decline and an increasing share of the population is in older age groups that



*The inventory of Silicon Valley houses listed for sale each month has declined by 10% since 2014.*

\*2015 average includes January through November only. | Data Source: Zillow Real Estate Research | Analysis: Silicon Valley Institute for Regional Studies

# PLACE

## HOUSING

have smaller households. However, Silicon Valley household size has been increasing steadily, rising from 2.98 to 3.09 people per household between 2005 and 2014. Increasing household size over time indicates that more people are moving in with one another to avoid high housing costs.

Silicon Valley (and the Bay Area as a whole) failed to meet its Regional Housing Need Allocation (RHNA)<sup>1</sup> goals for 2007-2014 except in the least affordable housing category (Above Moderate Income, 120%+ of the

Area Median Income). For Very Low Income, Low Income, and Moderate Income housing, Silicon Valley only reached 25%, 25%, and 22%, respectively, of its set goals. However, Silicon Valley's cities are moving toward more affordable development, having approved more affordable housing units in the 2014-15 fiscal year (1,758<sup>2</sup> representing 16% of all approved housing units) than in any other year since FY 2001-02.

As home prices have increased (+33% since 2011), so have Silicon Valley rental rates (+27%

for apartments and +25% for single-family homes (SFH), condos and co-ops over the same time period). Between 2013 and 2014, median Silicon Valley rental rates increased by 13-16% (+\$3,500-\$5,500/year, or \$300-\$450/month), compared to the increase in inflation-adjusted median household income of only 4.4% (+\$4,109/year, or \$342/month). While income gains were similar to rental rate increases on a monthly basis (exceeding apartment rental rate increases by \$44/month, but lagging SFH/Condo/Co-op rates by \$113/

1. The Regional Housing Need Allocation 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.

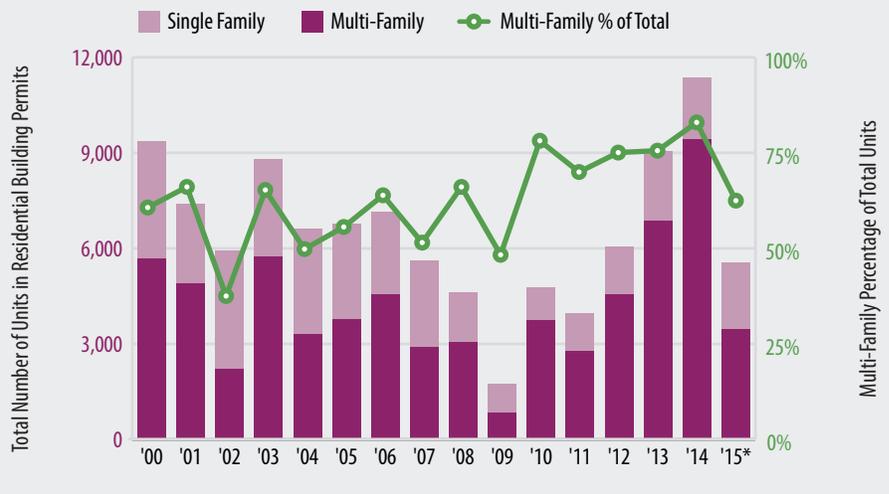
2. Throughout the 29 cities that participated in the affordable housing portion of Joint Venture's annual Land Use Survey.

### Residential building slowed in 2015.

#### Residential Building

Single Family and Multi-Family Units Included in Residential Building Permits Issued

Santa Clara & San Mateo Counties



\*2015 estimate based on data through November. | Data Source: Construction Industry Research Board and California Homebuilding Foundation | Analysis: Center for Continuing Study of the California Economy; Silicon Valley Institute for Regional Studies

month), the rate of income increase was much slower and therefore inadequate in offsetting the increased rental rates. Additionally, housing costs are considered burdensome if they are higher than 30% of gross income.<sup>3</sup> As such, it is not possible for an excess \$342 per month (pre-tax) income gain to fully offset even the apartment rental rate increase of \$298/month. In 2015, Silicon Valley rental rates reached \$2,749 per month for apartments (compared to \$3,890 in San Francisco, \$1,930 in California, and \$1,123 in the United States as a whole) and

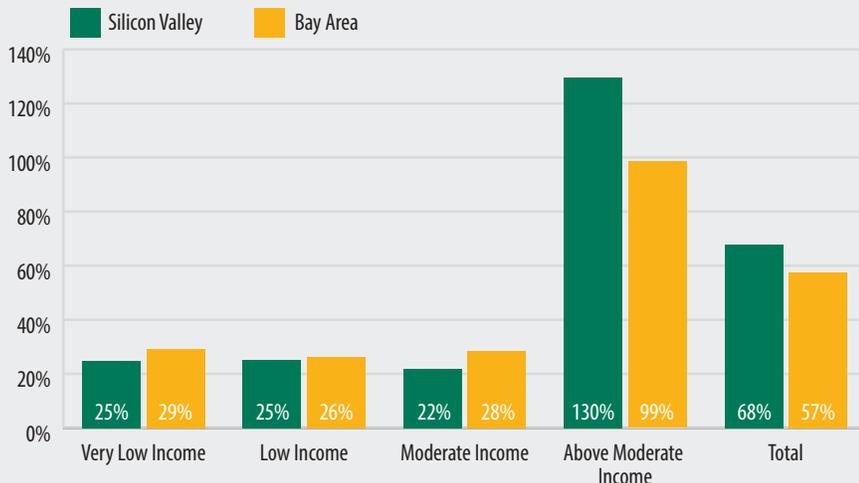
\$3,507 per month for single-family residences, condos and co-ops (compared to \$4,584 in San Francisco, \$2,205 in California, and \$1,391 in the United States as a whole). These rates represent an increase of nearly 8% over the prior year. Average apartment rental rates in Silicon Valley are consistently higher than the state and the nation, and have been rising rapidly since 2010.

Median household income gains would need to have been approximately three times greater to accommodate home price increases

3. 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.

**Progress Toward Regional Housing Need Allocation (RHNA), by Affordability Level**

*Silicon Valley and Bay Area | 2007-2014*



*Silicon Valley only met 57% of its total Regional Housing Need Allocation for 2007-2014.*

Data Source: Association of Bay Area Governments (ABAG) | Analysis: Silicon Valley Institute for Regional Studies

# PLACE

## HOUSING

between 2013 and 2014 without being burdensome (housing costs greater than 30% of gross income). During that time period, Silicon Valley median home prices increased by \$68,000, amounting to a mortgage payment increase of approximately \$319 per month (over \$3,828 per year) for first-time homebuyers.<sup>4</sup> This increase would represent a burdensome share (93%) of the \$342 per month (\$4,109 per year) income gains that year (pre-tax), indicating the difficulty that existing Silicon Valley residents face when trying to purchase homes in the area.

4. Based on estimated mortgage payments at the average 30-Year Fixed Rates, assuming first-time homeowners put 20% as a down payment, and not accounting for inflation between 2013 and 2014.

The share of Silicon Valley renters with a significant housing burden (as defined by housing costs more than 35% of income) remained constant between 2013 and 2014 at 39%. This compares to 34% of San Francisco renters, 45% of California renters, and 39% of those across the country. Over the same period of time, the housing burden for Silicon Valley homeowners declined slightly (from 30% in 2013 to 29% in 2014), continuing a five-year downward trend. The most recent peak housing burden for homeowners was in 2007-2008, when 41% of homeowners were spending more than 35%

of their income on housing costs. But whereas the share of Silicon Valley homeowners burdened by housing costs has declined since then, the share of burdened renters has risen by nearly five percentage points.

The percentage of first-time homebuyers that can afford to purchase a median-priced home (Housing Affordability Index) in both Santa Clara and San Mateo Counties fell in 2015 as part of a four-year downward trend. The change was particularly rapid in San Mateo County, where affordability fell from 34% of first-time homebuyers in 2014 to only

***Silicon Valley household sizes increased from 2.98 to 3.09 people per household between 2005 and 2014.***

### Average Household Size & Additional Units Needed to Accommodate Population Growth

*Santa Clara & San Mateo Counties*



Data Source: United States Census Bureau, American Community Survey; California Department of Finance; Construction Industry Research Board and California Homebuilding Foundation | Analysis: Center for Continuing Study of the California Economy; Silicon Valley Institute for Regional Studies

New affordable housing development increased to

16%



### Building Affordable Housing

Affordable Units as a Percentage of Total Approved New Residential Units

Silicon Valley



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

# PLACE

## HOUSING

27% in 2015. In Santa Clara County, affordability fell from 44% in 2014 to 41% in 2015. These affordability rates are much lower than the 52% of first-time homebuyers throughout the state who can afford to purchase a median-priced home. Silicon Valley and California are both less affordable for first-time homebuyers than the in the United States overall, which had a Housing Affordability Index from the California Association of Realtors of 74% in the third quarter of 2015. Sacramento, Los Angeles and San Diego are among the places in California that are more affordable

for first-time homebuyers than Silicon Valley, while all exhibit the same downward trend in affordability over the past three years.

Silicon Valley, like San Francisco, California, and the United States as a whole, has seen a gradual increase in multigenerational households since 2008. Between 2008 and 2014, the share of households in Silicon Valley that include three or more generations has increased from 4.3% to 5.1% (representing an additional 8,900 households). This six-year increase in the number of multigenerational households (up by 25%) is disproportionately

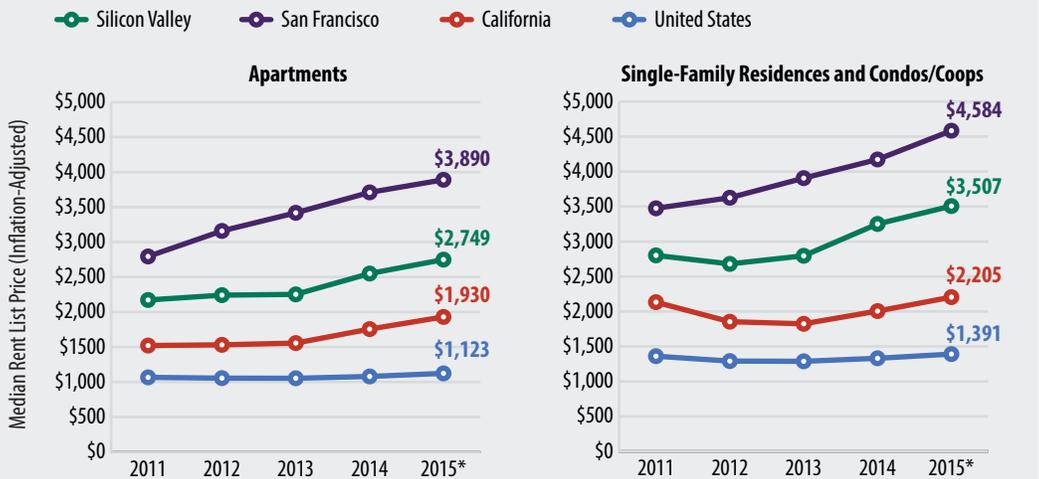
greater than the increase in the total number of households (up by 4%). The increase is likely due to increasing housing costs and the limited supply of available housing within the region. In comparison to 5.1% in Silicon Valley, San Francisco had a much smaller share of multi-generational households in 2014 (3.2%).

**Median Silicon Valley apartment rental rates reached \$2,749 in 2015.**

### Rental Affordability

Median Rental Rates

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



\*Based on Q1-3. | Note: Median Apartment Rental Rates include multifamily complexes with more than five units. | Data Sources: Zillow Real Estate Research | Analysis: Silicon Valley Institute for Regional Studies

Only  
27%

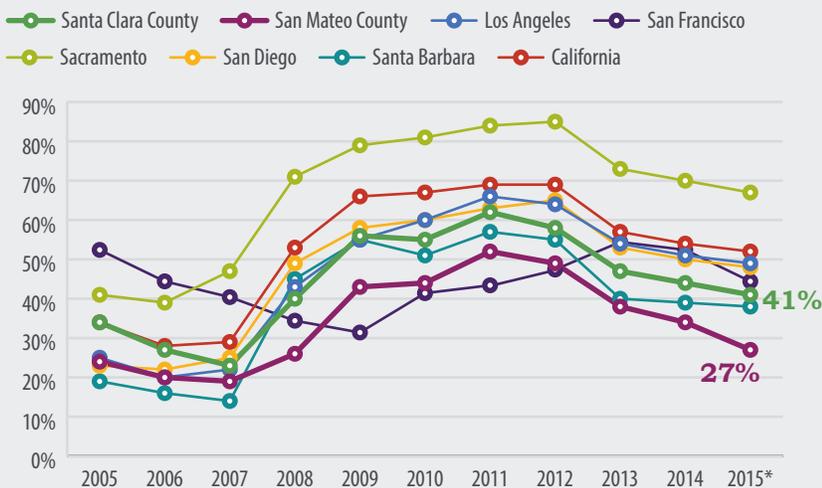
of first-time homebuyers in San Mateo County can afford a median-priced home.



### Home Affordability

Percentage of Potential First-Time Homebuyers That Can Afford to Purchase a Median-Priced Home

Santa Clara and San Mateo Counties, San Francisco, and Other California Regions



\*2015 data reflects Q1-3. | Data Source: California Association of Realtors | Analysis: Silicon Valley Institute for Regional Studies

# PLACE

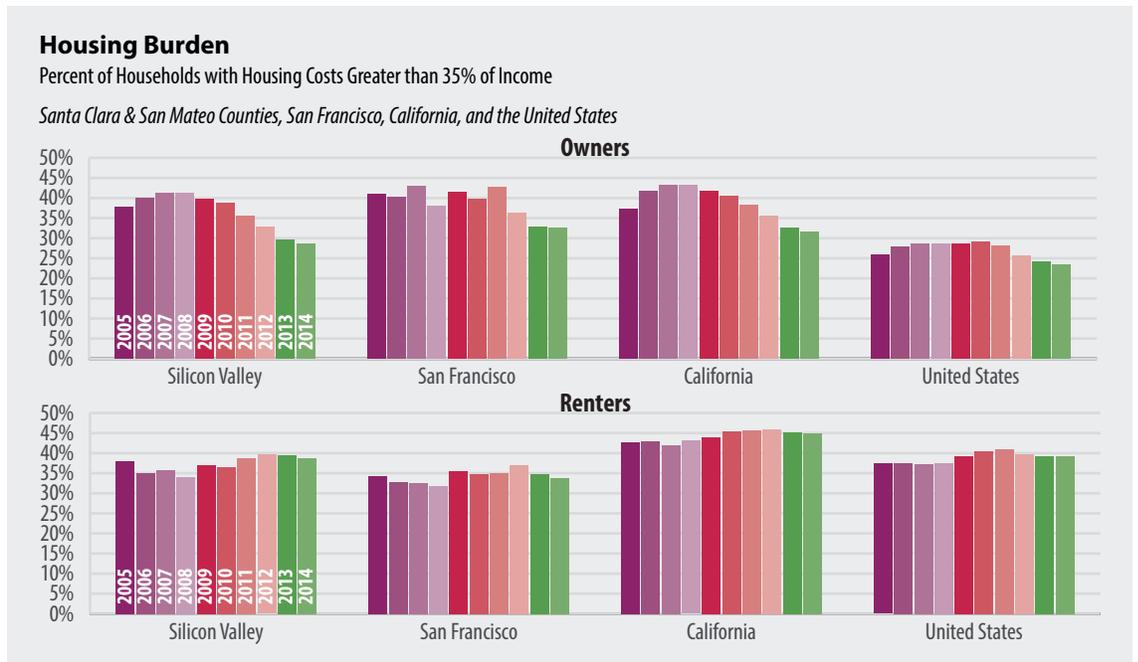
## HOUSING

# 39%

*of Silicon Valley renters are burdened by housing costs.*



*The share of Silicon Valley owners and renters burdened by housing costs declined slightly between 2013 and 2014.*



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

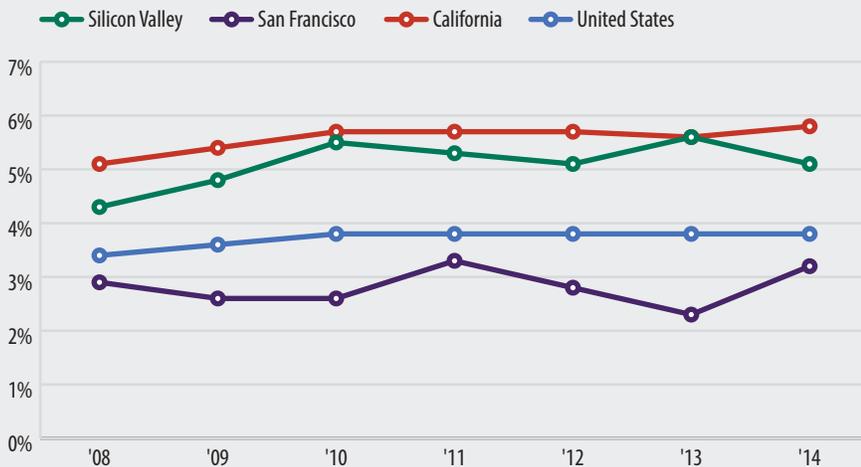
More than 5%

of all Silicon Valley households are multigenerational.

**Multigenerational Households**

Share of Households with Three or More Generations

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



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

# PLACE

## TRANSPORTATION

*The region's traffic congestion problem continues to worsen despite a smaller share of Silicon Valley commuters that are driving alone, and increases in public transit ridership.*

### WHY IS THIS IMPORTANT?

Adequate highway capacity and increasing alternatives to driving alone are important for the mobility of people and goods as the economy expands. Public transportation investments, 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.

### HOW ARE WE DOING?

Vehicle Miles Traveled per person (VMT) in Silicon Valley decreased from 8,539 miles per year in 2013 to 7,924 miles per year in 2014

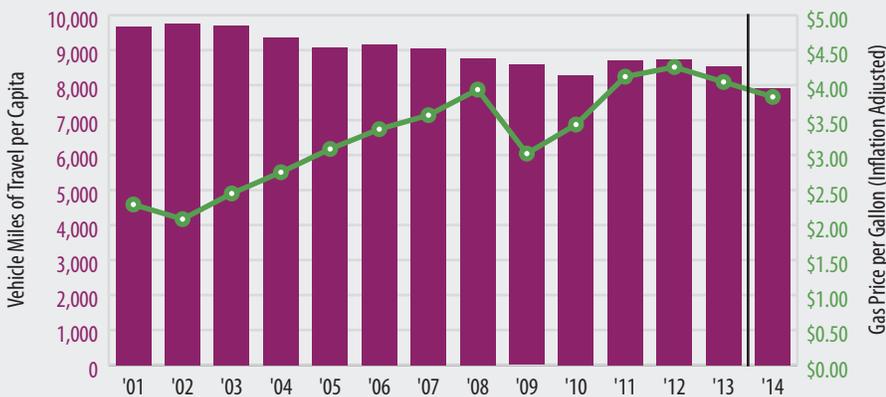
(-7.2%); however, much of this decrease is likely due to changes in the California Department of Transportation Highway Performance Monitoring System (HPMS), which did not include data from local roads or federal agencies in 2014. Average inflation-adjusted gas prices throughout the state increased between 2009 (\$3.02 per gallon) and 2012 (\$4.26 per gallon), then decreased through 2014. In 2014, the average gas price was \$3.83 per gallon.

Between 2004 and 2014, the share of Silicon Valley residents who drive alone to work has declined from 78% to 74%. However, despite the decline in the share of commuters driving alone, as the total number of commuters has

## VEHICLE MILES TRAVELED PER CAPITA AND GAS PRICES

### Vehicle Miles Traveled Per Capita and Gas Prices

*Santa Clara and San Mateo Counties*



*Annual VMT per capita and gas prices declined between 2013 and 2014.*

Note: Gas prices are average annual regular retail gas prices for California, inflation-adjusted to 2014 dollars. The decline in VMT per Capita between 2013 and 2014 may be due to differences in data collection methodology between 2014 and prior years. | Data Sources: California Department of Transportation; California Department of Finance; California Energy Almanac; U.S. Energy Information Administration | Analysis: Silicon Valley Institute for Regional Studies

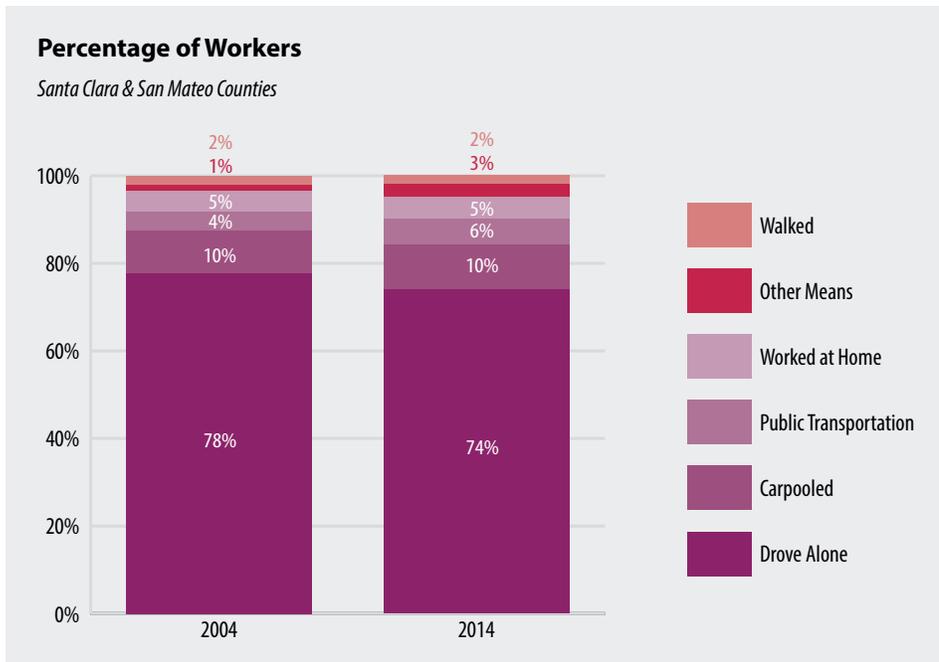
risen over that same period of time, per capita ridership on public transit increased as well (by 10.3% between 2004 and 2014). Between 2014 and 2015, per capita transit use in Silicon Valley increased by 2.4% overall, while rising by as much as 14% of some systems (+14.0% for VTA Express Bus Service, +7.8% for Caltrain, and +6.5% for ACE in Santa Clara County). This increase has been attributed to the opening of Levi's Stadium (in July 2014)<sup>1</sup>, Avaya Stadium (in March, 2015),<sup>2</sup> and the region's increasing traffic congestion. Comparatively, overall Bay Area Rapid Transit (BART) per capita ridership<sup>3</sup> has increased by 6% over the same period of time. Since 2010 – the beginning of the

economic recovery period – VTA Express Bus Service, Caltrain, and Santa Clara County ACE per capita ridership have increased by 57%, 47%, and 70%, respectively, compared to an overall Silicon Valley per capita transit ridership increase of 7%.

Additionally, as the total number of commuters increased, average commute times to work increased by three minutes in Santa Clara and San Mateo Counties (up 14% to 27 minutes in 2014) and three minutes in San Francisco (up 10% to 32 minutes) while only increasing by one minute throughout the state (up 4% to 28 minutes). Traffic congestion has become a worsening problem in Silicon Valley,

1. Levi's Stadium opened on July 17, 2014.  
 2. Avaya Stadium opened on March 22, 2015.  
 3. Including all BART service territories, normalized to Santa Clara and San Mateo County population growth for comparison to changes in Silicon Valley per capita ridership

## MEANS OF COMMUTE



Note: Other Means includes taxicab, motorcycle, bicycle 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

	2004	2014	% CHANGE
SANTA CLARA & SAN MATEO COUNTIES	23.8	27.2	+14.3%
SAN FRANCISCO	28.7	31.7	+10.5%
CALIFORNIA	27.1	28.1	+3.7%

*Silicon Valley commute times have increased by 14% over the last decade.*

*Nearly three-quarters of the workforce drives to work alone.*

# PLACE

## TRANSPORTATION

as indicated by annual delays and excess fuel consumption due to congestion in San Jose (up by 24% and 47%, respectively, between 2004 and 2014, and up 72% and 155%, respectively, between 1994 and 2014). In 2014, San Jose peak-time commuters lost an average of 67 hours and 28 gallons of gasoline per year to traffic congestion. San Jose's traffic congestion, as represented by the number of Rush Hours per Day, is similar to that of San Francisco (6.7 and 6.6 hours, respectively), but is greater than other large, West Coast cities including San Diego (5.8 hours), Seattle (5.5 hours), and Portland (5.1 hours).

Between 2011 and 2014, the number of residents commuting to another county within the region has increased significantly (+17%

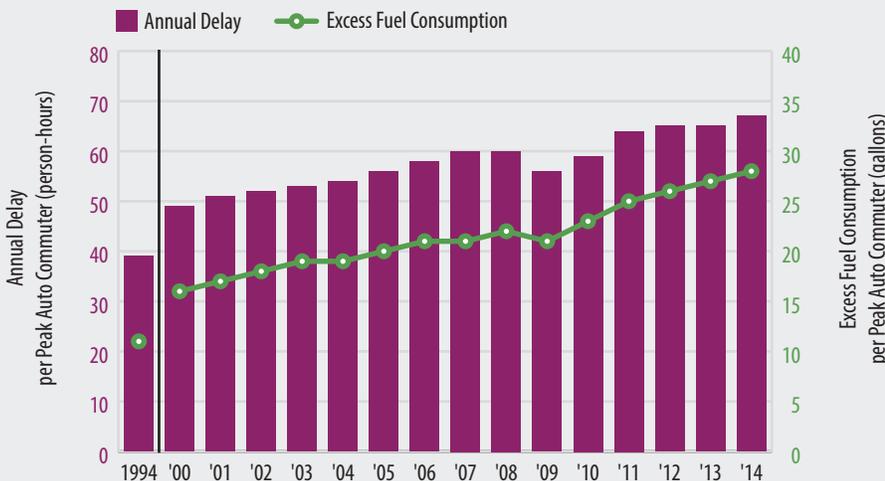
overall) due to an increasing number of jobs regionally, a reduction in unemployment, and new people joining the workforce. While a portion of this increase can be accounted for by public transportation and large corporate shuttles (rather than solely private automobiles), an increase in commuting within the region adds to the growing traffic congestion issue. Between 2011 and 2014, the number of residents commuting from Alameda County to San Mateo and San Francisco Counties has increased by 35%, amounting to 36,000 more daily commuters. Over a period of just one year between 2013 and 2014, the number of Alameda County residents commuting to San Francisco increased by more than 15% (+13,500 commuters), while the number

commuting to Santa Clara County actually decreased by 13% (-9,400 commuters). The latter may be related to the large year-over-year increase in Alameda County to Santa Clara County commuters that occurred two years prior (+18%). The Santa Clara County out-commute increased moderately between 2013 and 2014 (+5-7% to neighboring counties), while changes in the San Mateo County out-commute varied significantly by destination (+11% commuting to Santa Clara County, but -5% commuting to San Francisco). Overall, in 2014, the share of commuters who worked outside their county of residence was 13% for Santa Clara County, 43% for San Mateo County, 23% for San Francisco, and 29% for the Bay Area as a whole.

### TIME LOST TO TRAFFIC CONGESTION

#### Annual Delay and Excess Fuel Consumption per Peak Auto Commuter

San Jose



Data Source: Texas A&M Transportation Institute, Urban Mobility Information | Analysis: Silicon Valley Institute for Regional Studies

#### Number of Rush Hours per Day

2014

LOS ANGELES	7.8
SAN JOSE	6.7
SAN FRANCISCO	6.6
SAN DIEGO	5.8
SEATTLE, WA	5.5
PORTLAND, OR	5.1
SACRAMENTO	4.8
FRESNO	1.4

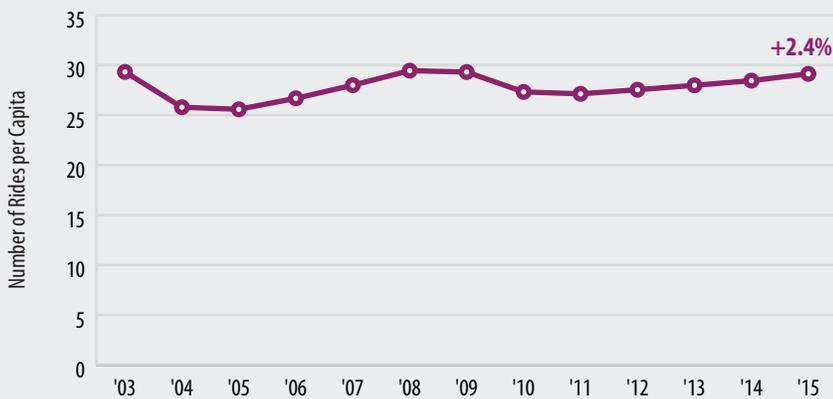
*San Jose commuters lost an average of 67 hours to traffic congestion in 2014.*

Public transit use  
was up **2.4%**  
in 2015.

TRANSIT USE

Number of Rides per Capita on Regional Transportation Systems

Santa Clara & San Mateo Counties



Change in Per Capita Transit Use 2010-2015

San Mateo & Santa Clara Counties

TRANSPORTATION SYSTEM	2010 PER CAPITA RIDERSHIP	2015 PER CAPITA RIDERSHIP	PERCENT CHANGE
SANTA CLARA VALLEY TRANSPORTATION AUTHORITY (VTA)			
ALL SERVICE	16.69	16.66	-0.2%
EXPRESS BUS SERVICE	0.38	0.60	+56.8%
SAM TRANS	5.57	4.98	-10.6%
CALTRAIN	4.79	7.03	+46.7%
ALTAMONT CORRIDOR EXPRESS (ACE)	0.27	0.46	+69.7%
<b>TOTAL</b>	<b>27.32</b>	<b>29.13</b>	<b>+6.6%</b>

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

# 43%

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

## COMMUTE PATTERNS

**Number of Residents Who Commute to Another County Within the Region**  
2014



**Share of Commuters Who Cross County Lines, by County of Residence**  
2014

Santa Clara County	13.0%
San Mateo County	43.0%
San Francisco	23.4%
Bay Area	28.9%

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

*Between 2011 and 2014, the number of commuters from Alameda County to San Francisco and San Mateo County increased by*

**35%**



**Change in the Number of Cross-County Commuters**  
2011-2014

Origin	Destination	Number	Percent
San Francisco	Santa Clara	+6,057	+28.0%
	San Mateo	+5,488	+13.2%
	Alameda	+2,187	+11.8%
San Mateo	San Francisco	+7,009	+9.3%
	Santa Clara	+9,480	+17.2%
	Alameda	+178	+1.5%
Santa Clara	San Mateo	+5,974	+14.3%
	San Francisco	+3,136	+23.2%
	Alameda	+5,905	+18.1%
Alameda	San Mateo	+10,015	+35.2%
	San Francisco	+26,088	+34.9%
	Santa Clara	+745	+1.2%

# PLACE

## LAND USE

*Non-residential development approvals remained extraordinarily high in FY 2014-15.*

### 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.

*Residential density decreased slightly to 20 dwelling units per acre.*



### HOW ARE WE DOING?

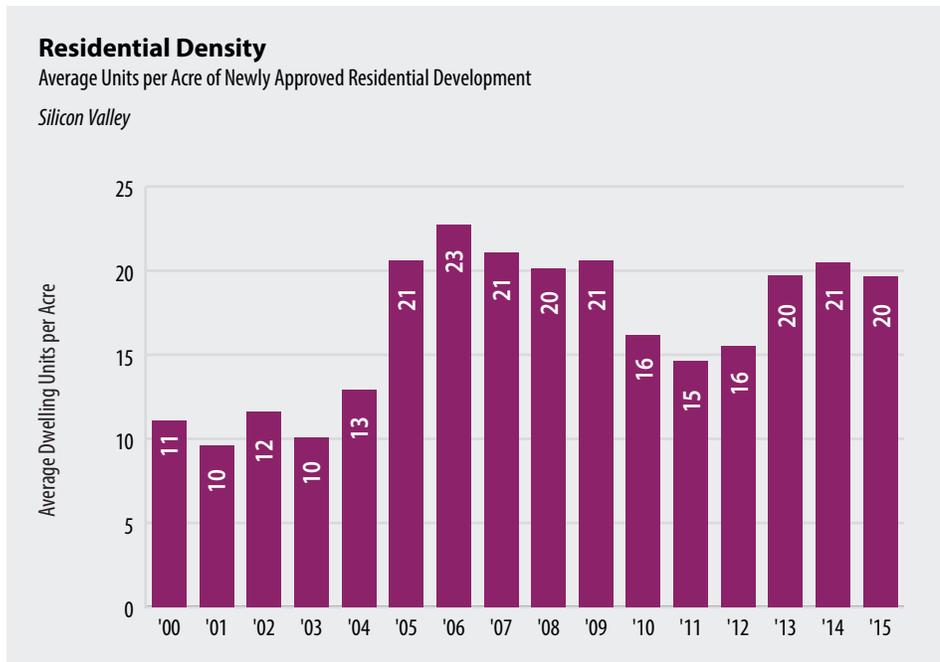
Average residential density in Silicon Valley has remained relatively constant over the past three years (at 20-21 dwelling units per acre), while remaining 5 dwelling units per acre higher in FY 2014-15 than during the recent low in FY 2010-11. The share of new housing units within walking distance of major rail or bus stations increased from 61% in FY 2013-14 (6,384 units) to 84% in FY 2014-15 (8,718 units).

Over the past two fiscal years, there has been nearly as much planned non-residential development (23.2 million square feet) as over the prior five years combined (23.4 million). Total net non-residential development approvals (after planned demolition) in FY 2014-15 were more than twice the annual average for 2003-2013. The 2013-14 fiscal year marked the

most non-residential development approvals for any one year on record. And while FY 2014-15 totals did not exceed those of the prior year, Silicon Valley's net planned non-residential development remained extraordinarily high (at 10.3 million square feet, compared to 12.9 million during the prior fiscal year). This amount of development is the floor area equivalent of 178 football fields. Of the 10.3 million in planned development, 34% (3.5 million square feet) will be near transit.

Approved non-residential development projects were spread throughout Silicon Valley, with pockets of significant development planned in cities such as Sunnyvale (1.1 million square feet, including the nearly 800,000 square foot Landbank project for Apple), San Jose (3.1 million sq. ft., including a particularly large site development permit to build as much as 1.7 million sq. ft. of industrial office space and incidental commercial support with up to one million sq. ft. of parking garages), Santa Clara (3.5 million sq. ft., including 1.3 million sq. ft. of office and R&D space being developed by Menlo Equities and leased to Palo Alto Networks – representing the City of Santa Clara's largest lease ever<sup>1</sup>), and Fremont (2.2 million sq. ft., including an implementation of the Warm Springs/South Fremont Community Plan with approximately 700,000 sq. ft. of commercial/mixed use development). Silicon Valley's FY 2014-15 non-residential development approvals included commercial

1. Silicon Valley Business Journal, "Deal of the Year finalist: Palo Alto Networks lease at Menlo Equities' Santa Clara campus." September 25, 2015.



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

space (26% of the total, with a net 2.9 million sq. ft. after planned demolition), office space (40%, net 4.4 million sq. ft.), light industrial (33%, net 2.6 million sq. ft.), and institutional development such as churches and schools (1%, net 143,000 sq. ft.) among the 27 cities that participated in this portion of Joint Venture's annual Land Use Survey. The project types range from large office and industrial space to mixed office/commercial space, a public storage facility in Burlingame, a Pepsi distribution center in Gilroy, an expansion of the Sequoia Union High School District in Menlo Park, a seminary in Fremont, a movie theatre at San Antonio Center in Mountain View, a new Honda dealership in San Carlos, to a Marriott hotel in South San Francisco, among other projects. In addition to South San Francisco, hotel development was planned in a handful of other Silicon Valley cities including Mountain View, Cupertino, San Jose, and Morgan Hill. It is coupled with in progress-hotel development,<sup>2</sup> and consistent with the +3.7% growth in Accommodation and Food Services jobs between Q2 2014 and Q2 2015 (see Appendix A).

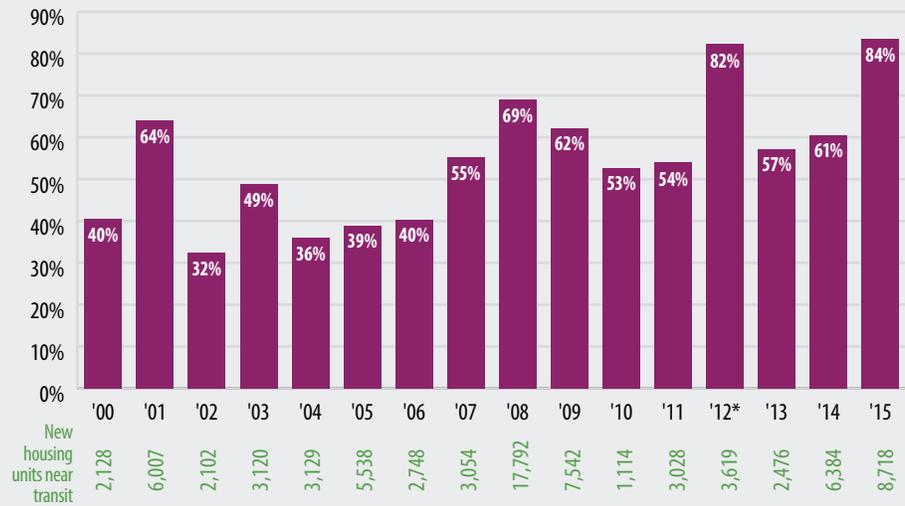
2. There has been significant growth recently in the hotel supply regionally, according to a study conducted by Hotel Appraisers & Advisors (HA&A) for the City of Morgan Hill, Hotel Market Research, July 9, 2015.

The percentage of new housing near transit increased to 84%.

### Housing Near Transit

Share of New Housing Units Approved That Will Be Within 1/3 Mile of Rail Stations or Major Bus Corridors

Silicon Valley



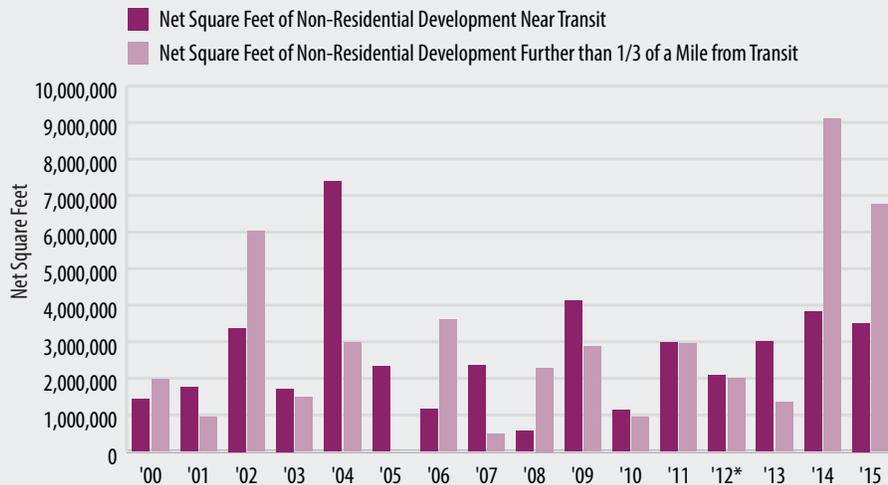
\*Beginning in 2012, the definition of transit oriented development has been changed from 1/4 mile to 1/3 mile. | Note: Beginning in 2008, the Land Use Survey expanded its geographic definition of Silicon Valley to include cities northward along the U.S. 101 corridor (Brisbane, Burlingame, Millbrae,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

The amount of approved non-residential development remained high in FY 2014-15.

### Development Near Transit

Change in Non-Residential Development Near Transit

Silicon Valley



\*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

# PLACE

## ENVIRONMENT

*The region continues to install solar and decrease water use; electric vehicle infrastructure continues to expand as EV adoption rates increase.*

### WHY IS THIS IMPORTANT?

Environmental quality directly affects the health and well-being of all residents as well as the Silicon Valley ecosystem.<sup>1</sup> 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 our 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.

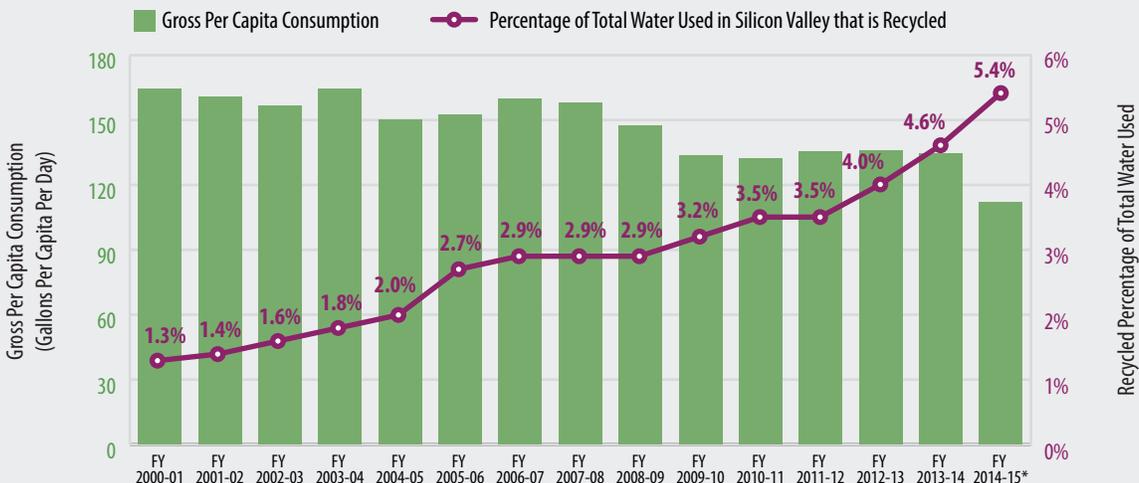
Water consumption and use of recycled water are particularly important indicators given California's drought conditions. At the end of December 2015, 91% of the state (including Silicon Valley) was classified as Severe Drought, and 45% of the state was

1. Recent 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.

### Water Resources

Gross Per Capita Consumption & Share of Consumption from Recycled Water

Silicon Valley



*Per capita water consumption declined by 17% in FY 2014-15.*

\*FY 2014-2015 data is preliminary. | Data Sources: Bay Area Water Supply & Conservation Agency (BAWSCA), Santa Clara Valley Water District, and Scotts Valley Water District | Analysis: Silicon Valley Institute for Regional Studies

classified as Exceptional Drought – the highest level of drought intensity – compared with 32% at the start of the 2015 calendar year, and 0% at the start of the 2014 calendar year, two years prior.<sup>2</sup> Despite a moderate amount of rainfall that replenished the Sierra Mountain Range snow pack (which was 105% of normal statewide in December, 2015),<sup>3</sup> the shortage of rain in 2014 and 2015 has led to diminished water resources for the region, including severely low Santa Clara County groundwater storage conditions.<sup>4</sup>

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

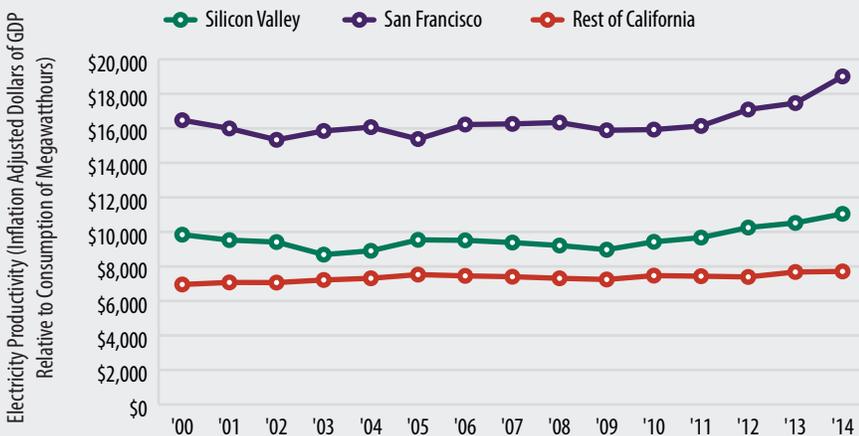
**HOW ARE WE DOING?**

Per capita daily water consumption in Silicon Valley declined significantly between FY 2013-14 and FY 2014-15, down by 17% to 112 gallons per person per day. Over the same period of time, the recycled percentage of water used has increased from 4.6% to 5.4%. While water consumption has gradually declined for more than a decade, this 17% drop was the most significant annual change that has occurred over that time period. The region's water agencies have attributed this

2. National Drought Mitigation Center, U.S. Drought Monitor for California, December 22, 2015 and December 30, 2014.  
 3. Department of Water Resources, California Data Exchange Center, Snow Water Equivalents on December 30, 2015.  
 4. Santa Clara Valley Water District, Groundwater Monitoring Conditions Report from December 5, 2015, total storage at the end of 2015 is projected to fall within Stage 3 (Severe) of the Water Shortage Contingency Plan.

**Electricity Productivity**

*Santa Clara & San Mateo Counties, San Francisco, Rest of California*



*Silicon Valley electricity productivity increased by 5% between 2013 and 2014.*

Data Source: Moody's Economy.com; California Energy Commission; State of California, Department of Finance | Analysis: Silicon Valley Institute for Regional Studies

decline to the local drought response following the January 2014 Statewide Emergency Drought Declaration<sup>5</sup> and April 2015 Governor's Executive Order requiring water use restrictions and other water saving initiatives,<sup>6</sup> and the subsequent reduction targets set for local water suppliers.<sup>7</sup> Statewide conservation efforts (including mandatory outdoor water use restrictions implemented by over 90% of the state's water suppliers) led to an 12.7% savings over the prior year (November 2014 – November 2015) in residential per capita daily water use throughout the San Francisco Bay Area.<sup>8</sup>

Silicon Valley's (Santa Clara and San Mateo Counties') electricity consumption declined since the recent peak in 2007 (of 8,840 kilowatt-hours per person annually), but remained relatively unchanged between 2012 and 2014 (at around 8,100 kWh per person annually) and significantly higher than in San Francisco (6,986 kWh per person in 2014) and the rest of California (7,311 kWh per person). And while electricity productivity is higher in Silicon Valley than the rest of the state (\$11,045 dollars of regional Gross Domestic Product per megawatt-hour in 2014, compared to \$7,710 per MWh), San Francisco's electricity

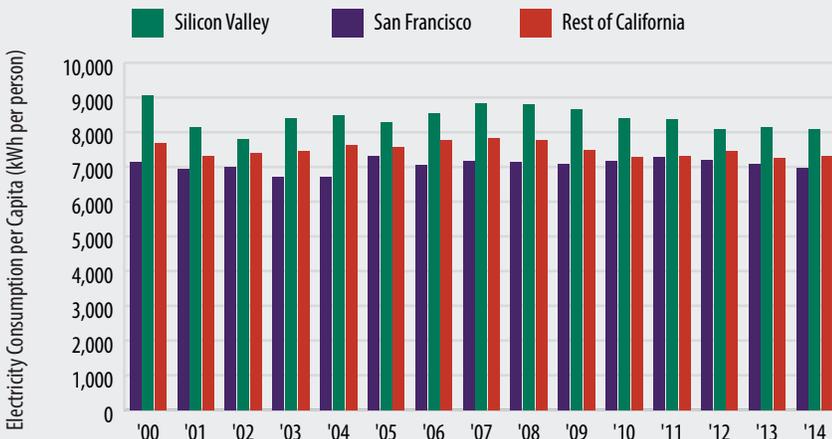
productivity is 72% higher (\$19,007 per MWh) and increasing rapidly. Between 2013 and 2014, San Francisco's electricity productivity increased by nearly 9% continuing a five-year upward trend.

Cumulative installed solar capacity in Silicon Valley reached 272 megawatts (MW) at the end of the third quarter of 2015, up 46 MW (+20%) over the previous year. In just the first three quarters of 2015, more solar capacity was installed than in all of 2014 combined, across residential, commercial, and other types of systems. Of the 46 MW gain in Q1-3 2015, 55% was from residential, 26% from commercial,

5. State of California, Governor Brown Declares Drought State of Emergency, January 17, 2014.  
 6. State of California, Executive Order B-29-15, April 1, 2015.  
 7. For example, Scotts Valley Water District asked for voluntary 20% cutbacks and elevated community outreach strategies, enhanced the rebate program, and restricted outdoor irrigation to twice per week. The Santa Clara Valley Water District set county-wide targets, including twice per week irrigation and a 20% reduction in water use.  
 8. California Environmental Protection Agency, State Water Resources Control Board, Factsheet: November by the Numbers, January 5, 2016.

### Electricity Consumption per Capita

*Santa Clara & San Mateo Counties, San Francisco, Rest of California*



**Silicon Valley electricity consumption per capita has remained relatively steady since 2012.**

Data Source: Moody's Economy.com; California Energy Commission; State of California, Department of Finance | Analysis: Silicon Valley Institute for Regional Studies

and 19% from other types of installations (including non-profit, government, industrial, and utility).

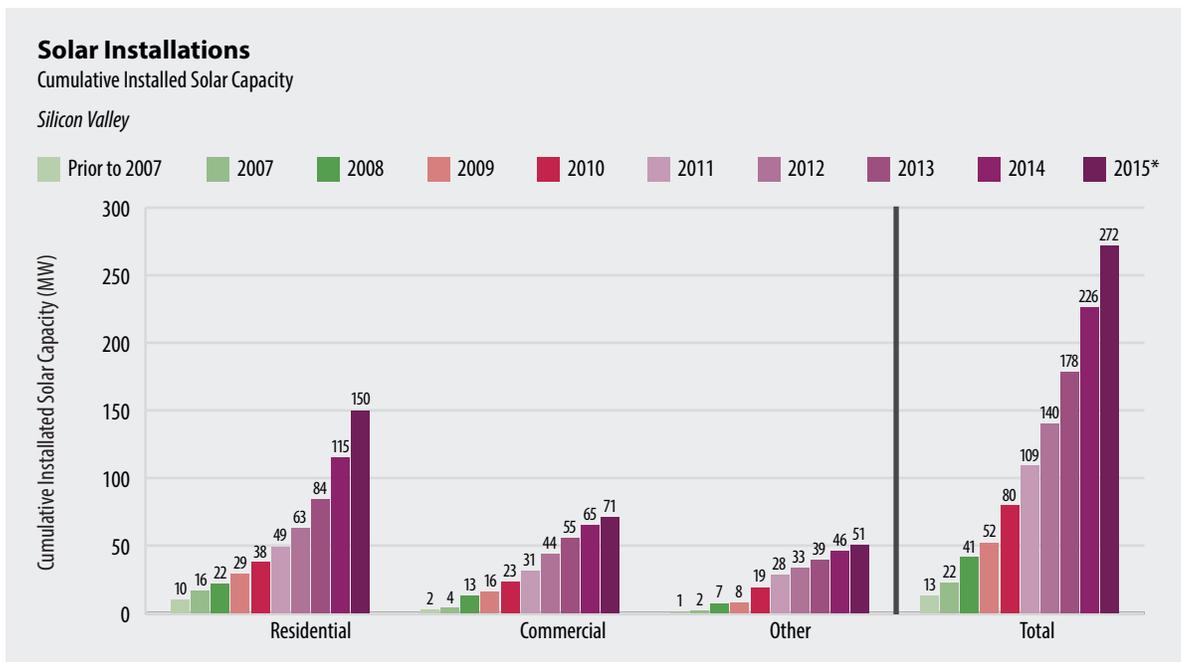
In November of 2015, there were 308 public electric vehicle (EV) charging stations in Santa Clara and San Mateo Counties with a total of 1,063 charging outlets (plugs, with one outlet needed to charge one electric vehicle at any given time). These amounts represent a 43% and 27% gain, respectively, in the number of local charging stations and outlets since 2014. Silicon Valley's share of California's public electric vehicle charging infrastructure declined slightly as other regions accelerated

deployment, dropping from 15% of all state-wide outlets in 2014 to 13% in 2015. Contrary to this trend, Silicon Valley's share of California electric vehicle drivers<sup>9</sup> has gone up slightly (from 19% in 2014 to 20% in 2015) as the number of local EV drivers continues to increase. Since the majority of Silicon Valley EV drivers rely heavily on private charging stations (in-home or at-work), it is not surprising that the EV adoption trend is different from that of public charging infrastructure deployment. As of December, 2015, more than 25,000 EV drivers in Santa Clara and San Mateo Counties have applied for California rebates. These

Silicon Valley drivers seem to favor the all-electric Nissan Leaf (representing 30% of all rebates), the plug-in hybrid electric Chevy Volt (18%), all-electric Teslas (16%), the all-electric Ford Focus and plug-in hybrid electric Energi (10% combined), the all-electric Toyota RAV4 (10%)<sup>10</sup>, and the all-electric FIAT 500e (8%), among several other electric vehicles makes/models.

9. Including those who have applied for the California rebate only.

10. The all-electric Toyota RAV4 was available until 2014.



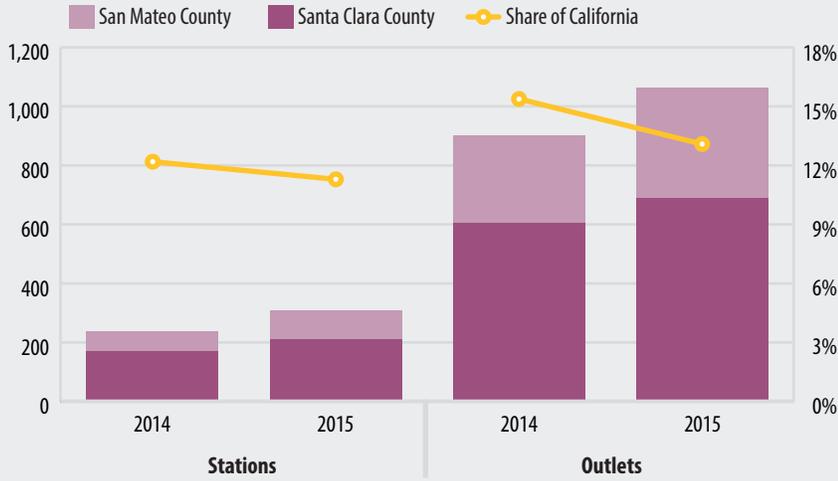
*Cumulative installed solar capacity in Silicon Valley reached 272 megawatts.*

\*2015 data is through October. | Data Sources: Palo Alto Municipal Utilities; Silicon Valley Power; Pacific Gas & Electric | Analysis: Silicon Valley Institute for Regional Studies

### Electric Vehicle Infrastructure

Number of Public Charging Stations and Outlets, and Share of California

*Santa Clara & San Mateo Counties*

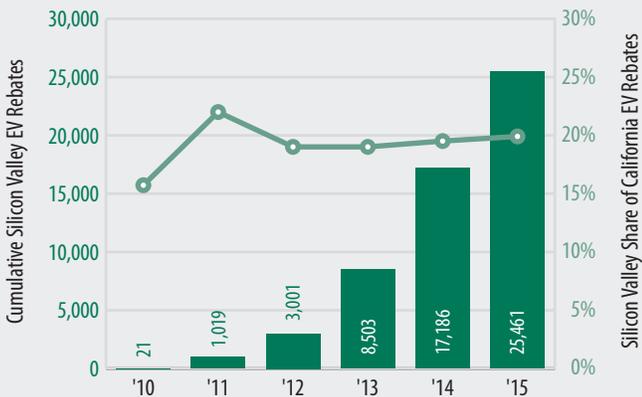


Note: Data is as of November 2015, and include public stations only. | Data Source: United States Department of Energy, Alternative Fuels Data Center | Analysis: Silicon Valley Institute for Regional Studies

## ELECTRIC VEHICLE ADOPTION

### Cumulative Count of Electric Vehicle Rebates, and Share of California

*Santa Clara & San Mateo Counties*



*Nearly 20% of all 2010-2015 California electric vehicle rebates were for Silicon Valley drivers.*

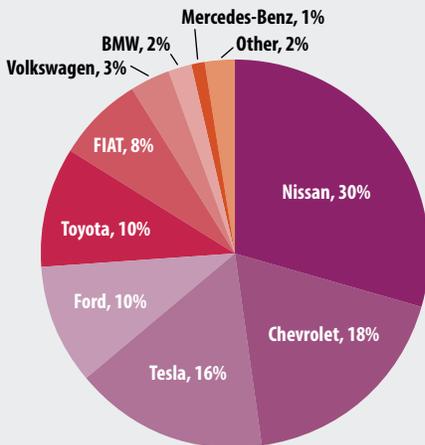
Note: Only includes electric vehicles for which the owner applied for a California rebate. | Data Source: California Air Resources Board Clean Vehicle Rebate Project | Analysis: Silicon Valley Institute for Regional Studies

# More than 13%

of California's EV charging outlets are in Silicon Valley.

## Electric Vehicle Adoption, by Make

Santa Clara & San Mateo Counties | 2010-2015



*Nissans and Chevrolets account for nearly half of all Silicon Valley electric vehicles.*

Note: Only includes electric vehicles for which the owner applied for a California rebate. | Data Source: California Air Resources Board Clean Vehicle Rebate Project | Analysis: Silicon Valley Institute for Regional Studies

# GOVERNANCE

## CITY FINANCES

*City revenues declined by 2% after adjusting for inflation, and continued to become more dependent on Charges for Services. Investment earnings only accounted for 1% 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 of revenue, 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.

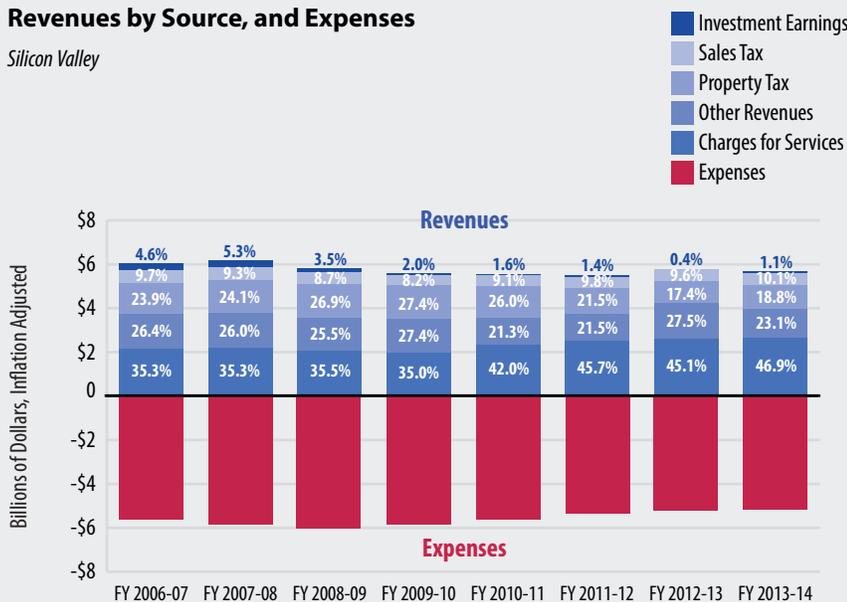
### HOW ARE WE DOING?

Silicon Valley city revenues totaled \$5.7 billion in FY 2013-14 for all 39 cities, ranging from \$2.6 million in Monte Sereno to \$1.7 billion in San Jose. Revenues exceeded expenses by \$336 million – a smaller margin than during the prior year (\$391 million). This decreasing margin was due to a 2.0% decline

## CITY FINANCES

### Revenues by Source, and Expenses

Silicon Valley



*Silicon Valley city revenues declined by 2% in FY 2013-14, while expenses declined by 1.1%.*

Data Source: Silicon Valley Cities, Audited Annual Financial Reports | Analysis: Silicon Valley Institute for Regional Studies

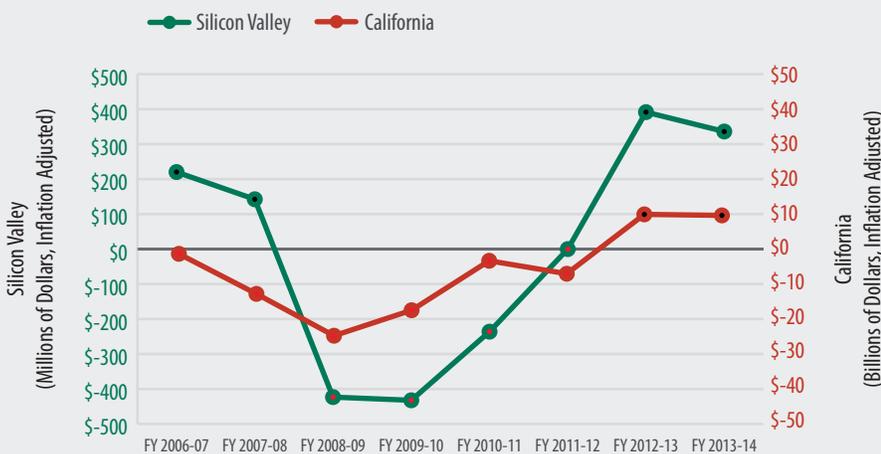
in total revenues (after inflation-adjustment) and only a 1.1% decline in total expenses. The 2013-14 fiscal year marked the second year in which overall Silicon Valley revenues exceeded expenses. Prior to that, the region had experienced four straight years where expenses exceeded revenues. California revenues also exceeded expenses in FY 2013-14, with a margin of \$9.8 billion.

Since 2007, Silicon Valley city budgets have become increasingly dependent on Charges for Services (up from 35% of total revenue

to 47%), and less dependent on property tax (down from 24% to 19%) and investment income (down from 5% to 1%). Revenues from Charges for Services for all Silicon Valley cities totaled \$2.7 billion in FY 2013-14, \$52 million more than the previous fiscal year.

### Revenues Minus Expenses

Silicon Valley and California



**Silicon Valley city revenues were \$336 million more than total expenses in FY 2013-14.**

Data Sources: Silicon Valley Cities, Audited Annual Financial Reports; California State Auditor | Analysis: Silicon Valley Institute for Regional Studies

# GOVERNANCE

## CIVIC ENGAGEMENT

*Voter turnout among young adults is extremely low; more voters are declining to state a political party affiliation, and an increased share is voting absentee.*

### 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.

### HOW ARE WE DOING?

For over a decade, the share of eligible voters in Silicon Valley registered with the Republican Party has continued to decline (from 31% in March 2000 to 21% in November 2014), while the share that decline to state a party preference has increased (from 17% in

2000 to 29% in November 2014). The share of residents registered with the Democratic Party has stayed relatively constant, between 46% and 48%. Similar trends are seen throughout the state, although California has a greater share of registered Republicans and a smaller share of Democrats (42% to 47%) and those who decline to state.

The share of Silicon Valley and California voters that participate by absentee ballot has increased steadily since 2002 from 23% and 26%, respectively, in March 2002, to 80% and 69%, respectively, in June 2014. Silicon Valley has seen a greater turnout than California for every election since 2003, with the greatest share of eligible voters participating in Presidential elections. In the most recent Presidential election (November 2012), 59%

of Silicon Valley voters cast ballots, compared with only 55% of California residents. Voter turnout in the 2014 General Election varied significantly by age group in Silicon Valley, San Francisco, and California as a whole, and is inversely correlated with age. The highest voter turnout in Silicon Valley, San Francisco, and California was among residents over age 65 (57%, 51%, and 55%, respectively), and the lowest turnout was among the youngest voters, ages 18-24 (11%, 13% and 8%, respectively).

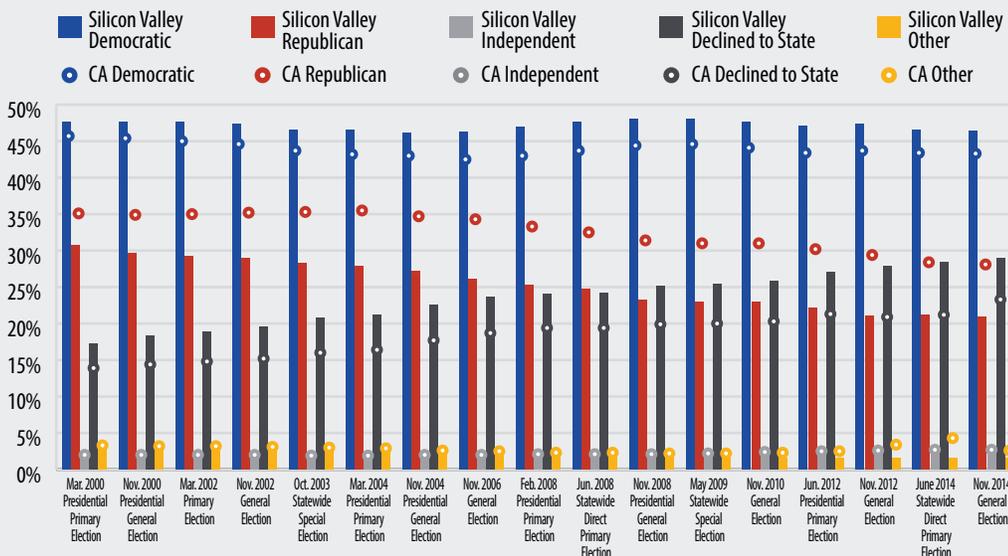
While voter registration rates are expected to increase throughout the state over the next couple of years due to the recently passed Motor Voter Program (AB 1461),<sup>1</sup> voter turnout may or may not be affected.

1. California Assembly Bill No. 1461, Voter registration: California New Motor Voter Program.

### Partisan Affiliation

Percentage of Registered Voters, by Political Party

Santa Clara & San Mateo Counties



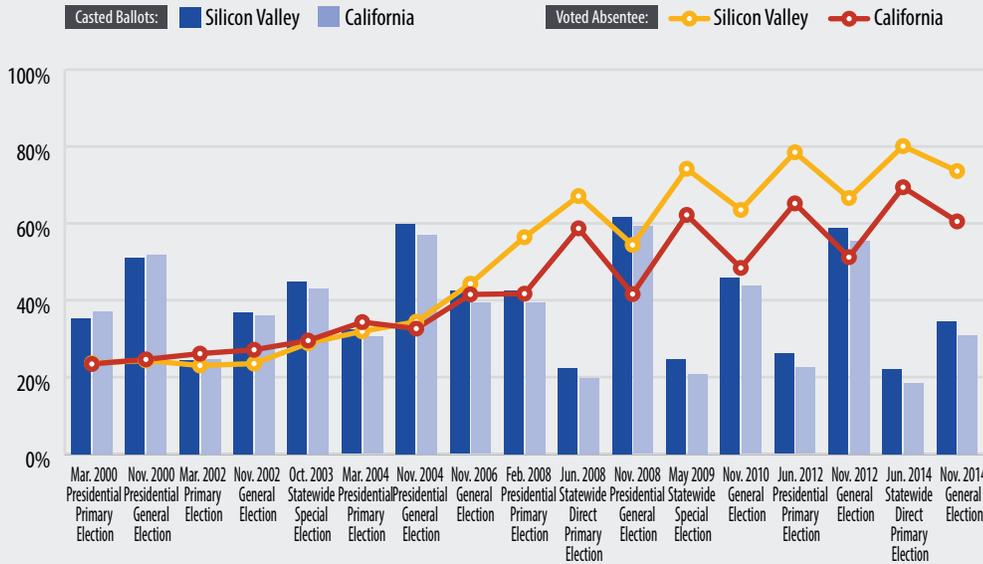
*The percentage of registered voters declining to state their political party affiliation continued to increase, while the percentage registered as Republicans decreased.*

Data Source: California Secretary of State, Elections and Voter Information Division | Analysis: Silicon Valley Institute for Regional Studies

### Voter Participation

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

Nearly 74% of Silicon Valley voters cast absentee ballots in the 2014 general election.

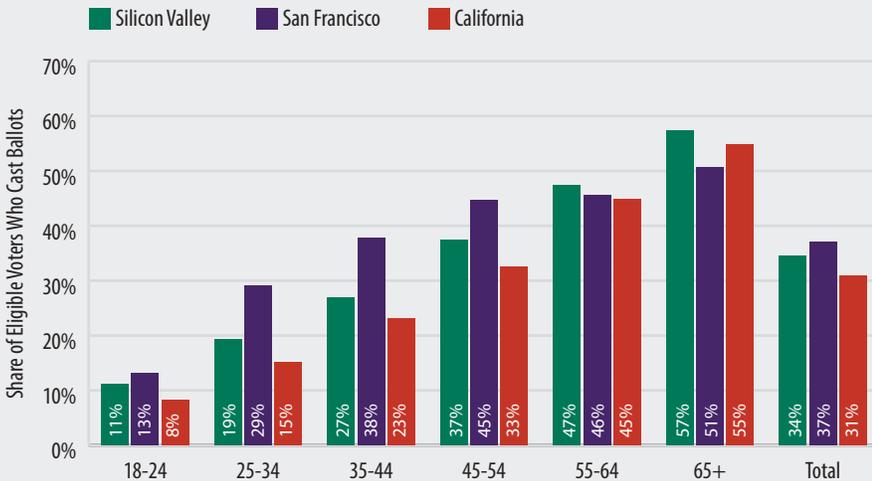


Data Source: California Secretary of State, Elections Division | Analysis: Silicon Valley Institute for Regional Studies

### Eligible Voter Turnout, by Age

Santa Clara & San Mateo Counties, San Francisco, and California | 2014

Only 11% of Silicon Valley voters age 18-24 cast ballots in the 2014 general election.



Data Sources: California Civic Engagement Project, Center for Regional Change at U.C. Davis, Data: California Secretary of State and California Department of Finance; California Secretary of State, Elections Division | Analysis: Silicon Valley Institute for Regional Studies

# APPENDIX A

	EMPLOYMENT Q2 2015	PERCENT OF TOTAL SILICON VALLEY EMPLOYMENT	PERCENT CHANGE		
			2007-2015	2010-2015	2014-2015
TOTAL EMPLOYMENT	1,545,805	100.0%	+12.0%	+19.4%	+4.3%
<b>COMMUNITY INFRASTRUCTURE &amp; SERVICES</b>	<b>764,237</b>	<b>50.4%</b>	<b>+8.9%</b>	<b>+16.3%</b>	<b>+2.4%</b>
HEALTHCARE & SOCIAL SERVICES <sup>1</sup>	146,866	9.7%	+28.1%	+17.9%	+2.3%
RETAIL	134,564	9.0%	+1.3%	+9.5%	+0.7%
ACCOMMODATION & FOOD SERVICES	125,248	8.2%	+22.1%	+25.8%	+3.7%
EDUCATION <sup>1</sup>	118,558	7.9%	+26.5%	+23.6%	+1.8%
CONSTRUCTION	67,838	4.2%	-5.6%	+38.0%	+9.8%
LOCAL GOVT. ADMINISTRATION <sup>2</sup>	44,548	3.0%	-23.6%	+1.3%	+1.2%
TRANSPORTATION	37,089	2.5%	+4.1%	+15.2%	+0.4%
BANKING & FINANCIAL SERVICES	19,187	1.3%	-7.2%	+14.6%	-1.2%
ARTS, ENTERTAINMENT & RECREATION	17,763	1.2%	-2.0%	-1.1%	+2.0%
PERSONAL SERVICES	15,790	1.0%	+30.8%	+27.2%	+3.8%
FEDERAL GOVT. ADMINISTRATION	11,075	0.7%	-12.6%	-32.3%	+0.6%
NONPROFITS	10,053	0.7%	-13.2%	+0.3%	-6.6%
INSURANCE SERVICES	8,692	0.6%	-6.7%	+13.1%	-3.5%
STATE GOVT. ADMINISTRATION <sup>2</sup>	2,476	0.1%	-26.3%	-6.0%	+16.2%
WAREHOUSING & STORAGE	2,556	0.1%	+18.0%	+10.6%	+22.3%
UTILITIES <sup>1</sup>	1,933	0.1%	-7.2%	-29.0%	+3.2%
<b>INNOVATION AND INFORMATION PRODUCTS &amp; SERVICES</b>	<b>388,220</b>	<b>24.6%</b>	<b>+23.2%</b>	<b>+24.5%</b>	<b>+6.6%</b>
COMPUTER HARDWARE DESIGN & MANUFACTURING	152,699	9.4%	+40.4%	+38.9%	+9.9%
SEMICONDUCTORS & RELATED EQUIPMENT MANUFACTURING	48,460	3.4%	-14.5%	+1.7%	-3.1%
INTERNET & INFORMATION SERVICES	51,314	3.0%	+150.6%	+107.4%	+16.6%
TECHNICAL RESEARCH & DEVELOPMENT (INCLUDES LIFE SCIENCES)	34,204	2.2%	+28.7%	+3.5%	+6.3%
SOFTWARE	28,542	1.9%	+37.9%	+28.8%	+1.0%
TELECOMMUNICATIONS MANUFACTURING & SERVICES	17,670	1.4%	-17.5%	-8.4%	-15.4%
INSTRUMENT MANUFACTURING (NAVIGATION, MEASURING & ELECTROMEDICAL)	17,344	1.0%	-26.0%	-7.3%	+17.7%
PHARMACEUTICALS (LIFE SCIENCES)	13,339	0.8%	+2.1%	+4.9%	+7.1%
OTHER MEDIA & BROADCASTING, INCLUDING PUBLISHING	7,960	0.5%	-3.5%	-8.7%	+5.6%
MEDICAL DEVICES (LIFE SCIENCES)	7,127	0.5%	+0.7%	+12.8%	+5.1%
BIOTECHNOLOGY (LIFE SCIENCES)	7,976	0.5%	+30.0%	+32.2%	+19.1%
I.T. REPAIR SERVICES	1,586	0.1%	-33.1%	-40.9%	-8.4%
<b>BUSINESS INFRASTRUCTURE &amp; SERVICES</b>	<b>252,660</b>	<b>16.5%</b>	<b>+4.7%</b>	<b>+15.4%</b>	<b>+3.6%</b>
WHOLESALE TRADE	60,465	4.1%	-3.6%	+5.6%	+0.4%
PERSONNEL & ACCOUNTING SERVICES	31,476	2.1%	-17.7%	-7.8%	+2.3%
ADMINISTRATIVE SERVICES	28,863	1.8%	+11.1%	+44.2%	+5.8%
FACILITIES	26,552	1.8%	+8.2%	+12.5%	+2.4%
TECHNICAL & MANAGEMENT CONSULTING SERVICES	22,298	1.6%	+16.7%	+11.7%	-3.3%
MANAGEMENT OFFICES	24,942	1.5%	+53.4%	+58.6%	+12.8%
DESIGN, ARCHITECTURE & ENGINEERING SERVICES	19,210	1.2%	+3.5%	+15.8%	+3.9%
GOODS MOVEMENT	12,837	0.8%	+7.5%	+29.0%	+2.4%
LEGAL	10,644	0.7%	-4.6%	+8.9%	+3.6%
INVESTMENT & EMPLOYER INSURANCE SERVICES	12,060	0.7%	+30.7%	+28.2%	+18.1%
MARKETING, ADVERTISING & PUBLIC RELATIONS	3,313	0.2%	-7.6%	+32.1%	+8.4%
<b>OTHER MANUFACTURING</b>	<b>56,873</b>	<b>3.7%</b>	<b>-17.8%</b>	<b>-2.2%</b>	<b>+5.1%</b>
PRIMARY & FABRICATED METAL MANUFACTURING	14,841	0.9%	-8.1%	+2.6%	+6.9%
MACHINERY & RELATED EQUIPMENT MANUFACTURING	12,570	0.8%	-9.2%	+14.7%	+6.3%
OTHER MANUFACTURING	10,057	0.6%	+3.7%	+14.4%	+6.4%
TRANSPORTATION MANUFACTURING INCLUDING AEROSPACE & DEFENSE	8,111	0.6%	-6.4%	-29.8%	-1.5%
FOOD & BEVERAGE MANUFACTURING	7,777	0.5%	-51.2%	-8.5%	+7.0%
TEXTILES, APPAREL, WOOD & FURNITURE MANUFACTURING	3,136	0.2%	-18.1%	+7.9%	+0.7%
PETROLEUM AND CHEMICAL MANUFACTURING (NOT IN LIFE SCIENCES)	380	0.0%	-64.7%	-60.1%	+11.2%
<b>OTHER</b>	<b>83,815</b>	<b>4.9%</b>	<b>+55.6%</b>	<b>+72.9%</b>	<b>+14.8%</b>

1. Includes government jobs (state and local).

2. Excludes government jobs in Healthcare & Social Services, Education, and Utilities.

Note: 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, 2014 and 2015, modified slightly by Chmura Economics & Analytics JobsEQ platform and EMSI, which removes suppressions and reorganizes public sector employment. Data for Q2 of 2015 was estimated at the industry level by BW Research using Q1 2015 QCEW data and updated based on Q2 2015 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; EMSI | Analysis: BW Research

# APPENDIX B

## PROFILE OF SILICON VALLEY

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### 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 2015.

### JOBS

The total number of jobs in the city-defined Silicon Valley region for Q2 of 2015 was estimated by BW Research using Q1 2014 United States Bureau of Labor Statistics Quarterly Census of Employment and Wages data and Q2 2015 reported growth, modified slightly by Chmura Economics & Analytics JobsEQ 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 JobsEQ & EMSI (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: California County Population Estimates and Components of Change July 1, 1990-2000, E-2: California County Population Estimates and Components of Change by Year - July 1, 2000-2010, and E-6: Population Estimates and Components of Change by County - July 1, 2010-2013 and July 1, 2010-2015, and are for San

Mateo and Santa Clara Counties. The July 1, 2010-2015 population estimates include revised July 1, 2011, July 1, 2012, July 1, 2013, and July 1, 2014 estimates. Estimates for 2015 are preliminary. Data for the years 2000-2010 are based on revised estimates released in December 2011. 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.

### 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, 2014 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.

### AGE DISTRIBUTION

Data are for Santa Clara and San Mateo Counties and are derived from the United States Census Bureau, 2014 American Community Survey, 1-year estimates. 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, 2014 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, 2014 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

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### TALENT FLOWS AND DIVERSITY

#### Components of Population Change; Population Change; Net Migration Flows

Data are from the California Department of Finance E-2: California County Population Estimates and Components of Change July 1, 1990-2000, E-2:

California County Population Estimates and Components of Change by Year - July 1, 2000-2010, and E-6: Population Estimates and Components of Change by County - July 1, 2010-2013 and July 1, 2010-2015, and are for San Mateo and Santa Clara Counties. The July 1, 2010-2015 population estimates include revised July 1, 2011, July 1, 2012, July 1, 2013, and July 1, 2014 estimates. Estimates for 2015 are preliminary. Data for the years 2000-2010 are

# APPENDIX B

## PEOPLE *continued*

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based on revised estimates released in December 2011. 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, 2014 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-2: California County Population Estimates and Components of Change by Year - July 1, 2000-2010 and E-6: Population Estimates and Components of Change by County - July 1, 2010-2013 and July 1, 2010-2015. Silicon Valley data are for San Mateo and Santa Clara Counties. The July 1, 2010-2015 estimates include revised July 1, 2011, July 1, 2012, July 1, 2013, and July 1, 2014 estimates. Estimates for 2015 are preliminary. Data for the years 2000-2010 are based on revised estimates released in December 2011.

### 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 derived from the United States Census Bureau, 2006, 2010, and 2014 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 was not available for Santa Clara County, or for San Mateo County in 2006. Data for American Indian and Alaska Native Alone was not available for San Mateo County.

## ECONOMY

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### EMPLOYMENT

#### Number of Silicon Valley Jobs with Percent Change over Prior Year

Data includes average annual employment estimates as of the second quarter for years 2007 through 2015 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 2015 was estimated at the industry level by BW Research using Q1 2015 QCEW data and updated based on Q2 2015 reported growth and totals, and modified slightly by Chmura Economics & Analytics JobsEQ platform, which removes suppressions and reorganizes public sector employment. Data for 2001 through 2014 were modified slightly by EMSI (Economic Modeling Specialists Intl.).

### Total Science and Engineering Degrees Conferred

State and regional data for 1995-2014 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, 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).

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

Data for the Percentage of the Total Population Who Area Foreign Born are from the United States Census Bureau, 2014 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, 2014 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; Languages Spoken at Home, by Share of the Population 5-Years and Over

Data for Silicon Valley include Santa Clara and San Mateo Counties, and are from the United States Census Bureau, 2014 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.

### 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 2014 and Q2 2015. The total number of jobs for Q2 of 2015 was estimated by BW Research using Q1 2015 United States Bureau of Labor Statistics Quarterly Census of Employment and Wages data and Q2 2015 reported growth, modified slightly by Chmura Economics & Analytics JobsEQ platform, which removes suppressions and reorganizes public sector employment. Data for 2007, 2010, and 2014 were modified slightly by EMSI (Economic Modeling Specialists Intl.).

# APPENDIX B

## ECONOMY *continued*

### **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 2015 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 2015 was estimated at the industry level by BW Research using Q1 2015 QCEW data and updated based on Q2 2015 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); Pharmaceuticals (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). Data for 2007 through 2014 was modified slightly by EMSI (Economic Modeling Specialists Intl.), which removes suppressions and reorganizes public sector employment.

### **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. 2015 data are estimates based on QCEW 2015 Q2 employment at the industry level using 2015 Q1 data, and updated based on 2014 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 2014, median earnings (assuming a 40 hour work week for the entire year) were \$58.48 per hour or approximately \$121,638 per year for Tier 1 occupations, \$25.81 per hour or approximately \$53,685 per year for Tier 2 occupations, and \$12.80 per hour or approximately \$26,624 per year for Tier 3 occupations.

### **Monthly Unemployment Rate**

Monthly unemployment rates are calculated using employment and labor force data from the Bureau of Labor Statistics, Current Population Statistics (CPS) and the Local Area Unemployment Statistics (LAUS). Data is not seasonally adjusted. Santa Clara County, San Mateo County, San Francisco and California data for November 2015 are Preliminary.

### **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 for 2008, 2010, 2012, and 2014. 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. 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 2010-2014 available as of March 2015. 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 2014 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

# APPENDIX B

## ECONOMY *continued*

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 2006-2014 American Community Surveys. All income values have been inflation-adjusted and are reported in 2014 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 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, 2006-2014 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**

Data for Median Household Income are from the U.S. Census Bureau 2000-2014 American Community Surveys. All income values have been inflation-adjusted and are reported in 2014 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. Median household income for Silicon Valley was estimated using a weighted average based on the county population figures from the California Department of Finance "E-4 Population Estimates for Cities, Counties, and the State, 2011-2015, with 2010 Census Benchmark," "E-4 Revised Historical City, County and State Population Estimates, 1991-2000, with 1990 and 2000 Census Counts," and "E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts."

### **Average Wages**

Average wages are from the U.S. Bureau of Labor Statistics, QCEW 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 2015 dollars, using the Bay Area consumer price index for all urban consumers from the Bureau of Labor Statistics, 2015 estimate based on first half data for the Bay Area data, and the California consumer price index for all urban consumers from the California Department of Finance May Revision Forecast (April 2015) for California data. Data for 2001 through 2014 were modified slightly by EMSI (Economic Modeling Specialists Intl.).

### **Median Wages for Various Occupational Categories**

Data are from the California Employment Development Department, Employment and Wages by Occupation, 2010-2015, for the San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area (MSA), including Santa Clara and San Benito Counties, and the San Francisco-San Mateo-Redwood City MSA, including Marin, San Francisco, and San Mateo Counties. Wages 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 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 2015) for California data. Management, Business, Science and Arts Occupations include Management; Business and Financial Operations; Computer and Mathematical; Architecture and Engineering; Life, Physical, and Social Science; Community and Social Services; Legal; Education, Training, and Library; Arts, Design, Entertainment, Sports, and Media; and Healthcare Practitioners and Technical Occupations. Service Occupations include Healthcare Support; Protective Services; Food Preparation and Serving-Related; Building and Grounds Cleaning and Maintenance; and Personal Care and Service Occupations. Sales and Office Occupations include Sales and Related; and Office and Administrative Support Occupations. Natural Resources, Construction and Maintenance Occupations include Farming, Fishing and Forestry; Construction and Extraction; and Installation, Maintenance and Repair Occupations. Production, Transportation and Material Moving Occupations include Production; and Transportation and Material Moving Occupations.

### **Median Wages by Tier**

Median Wages by Tier data are based on Occupational Employment Statistics from the U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW) and modified slightly by EMSI and JobsEQ county-level earnings by industry. 2015 data are estimates based on QCEW 2015 Q1 data. 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

# APPENDIX B

## ECONOMY *continued*

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.

### Poverty Status; Share of Children Living in Poverty

Data for the percentage of the population living in poverty are from the United States Census Bureau, American Community Survey 1-year estimates. Silicon Valley data include San Mateo and Santa Clara Counties. Data for the share of children living in poverty include the population under age 18. Following the Office of Management and Budget's (OMB's) Directive 14, the Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If the total income for a family or unrelated individual falls below the relevant poverty threshold (e.g., household income of \$23,850 for a family of four in 2014 within the 48 contiguous states and the District of Columbia), then the family (and every individual in it) or unrelated individual is considered in poverty.

### Self-Sufficiency

Data is from the Self-Sufficiency Standard for California for 2012, from the Center for Women's Welfare at the University of Washington School of Social Work. Silicon Valley data represents an average of the values of Santa Clara and San Mateo Counties. Developed by Dr. Diana Pearce, the Self-Sufficiency Standard defines the amount of income necessary to meet basic needs (including taxes) without public subsidies (e.g., public housing, food stamps, Medicaid or child care) and without private/informal assistance (e.g., free babysitting by a relative or friend, food provided by churches or local food banks, or shared housing). The family types for which a Standard is calculated range from one adult with no children, to one adult with one infant, one adult with one preschooler, and so forth, up to two-adult families with three teenagers.

### Distribution of Households by Income Ranges

Data for Distribution of Income and Housing Dynamics are from the U.S. Census Bureau 2014 American Community Survey, 1-Year Estimates. Income ranges are based on nominal values. 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 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.

### 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 2006-2014 American Community Surveys, 1-Year Estimates, and include the population 25 years and over with earnings. All income values have been inflation-adjusted and are reported in 2014 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. The 2008 value for those with a graduate or professional degree is for San Mateo County only because the Santa Clara County data reported median income in that category as \$100,000+.

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

Data is from the United States Census Bureau, 2014 American Community Survey Public Use Microdata (PUMS), and includes all full-time (35 or more hours per week) workers over age 15 with earnings. Silicon Valley data includes Santa Clara and San Mateo Counties.

### Free or Reduced Price 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 2014-15 data is from the October 2014 data collection, and is certified as of March 16, 2015. Data for 2012-13 was 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 (\$31,005 for a family of four in 2014-2015) to qualify for free meals, or below 185% of the federal poverty guidelines (\$44,123 for a family of four in 2014-2015) 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 status in CALPADS, 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., 2011-2012 is shown as 2012). In school year 2012-2013, the California Department of Education changed its data collection methodology to utilize CALPADS (California Longitudinal Pupil Achievement Data System) student-level data rather than district-provided data. The Non Public Schools (NPS) and adult schools included in the CALPADS data were excluded from the analysis for consistency, because they were not included in past FRMP files. Because the 2012-2013 data had a large number of schools reporting enrollment and percent eligible but not eligible student counts, counts were estimated by multiplying enrollment by the eligibility rate and rounding to the nearest whole number.

# APPENDIX B

## ECONOMY *continued*

### INNOVATION & ENTREPRENEURSHIP

#### Value Added; 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 2014 and forecasts updated on 10/5/2015 (U.S. data), 10/12/2015 (California data) and 10/27/2015 (Silicon Valley and San Francisco). All 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, 2015 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 2015) 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 include Santa Clara and San Mateo Counties.

#### Patent Registrations; Patents Granted per 100,000 People; 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.

#### Venture Capital Investment; Venture Capital by Industry; Top Venture Capital Deals of 2015

Data are provided by The MoneyTree™ Report from PricewaterhouseCoopers and the National Venture Capital Association based on data from Thomson Reuters. Only investments in firms located within the city-defined Silicon Valley region are included. Other includes Healthcare Services, Electronics/Instrumentation, Financial Services, Business Products & Services, Other and Retailing/Distribution. All 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, 2015 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 2015) 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.

#### Angel Investment; Angel Investment, by Stage

Data is from CB Insights, and includes the entire city-defined Silicon Valley region, San Francisco, and California. The analysis includes disclosed financing data for both Seed Stage and Series A+ investments in which one or more Angel investor(s) participated. Investment 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 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 2015) for California data.

#### Initial Public Offerings

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 2013-2015.

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

Data provided by FactSet Research Systems, Inc. Data are based on M&A Activity in Joint Venture's zip code-defined region of Silicon Valley. Transactions include full acquisitions, majority stakes, minority stakes, club-deals and spinoffs.

#### Relative Growth of Firms Without Employees; Firms Without Employees in 2013; Percentage of Nonemployers by Industry, 2013

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. The 2009 nonemployer data was reissued August 15, 2012.

### COMMERCIAL SPACE

#### Commercial Space; Commercial Vacancy; Commercial Rents; New Commercial Development

Data is from Colliers International, and represents the end of each annual period unless otherwise noted. Commercial space includes Office, R&D, Industrial and Warehouse space. For San Mateo County data, Industrial includes Warehouse. Santa Clara County data for Commercial Rents and New Commercial Development include Fremont. 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 is calculated as the change between Q3 and Q3 of the prior year. Average asking rents are weighted "Full Service" (all-inclusive) for Office

# APPENDIX B

## ECONOMY *continued*

space, and NNN (triple net lease structure, where the tenant pays expenses) for R&D, Industrial and Warehouse. Net absorption is the change in occupied space during a given time period. Average asking rents 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 based on first half data. 2015 data is through Q3. 2006 data for average asking rents for San Mateo County Industrial and R&D are based on Q3-4.

## SOCIETY

### 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 and Science Scores

Data 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 ones place. On July 1, 2014, the Standardized Testing and Reporting (STAR) Program was replaced by CAASPP, the California Assessment of Student Performance and Progress. The CAASP,

test includes Smarter Balanced Summative Assessments for English–language arts (ELA) and mathematics in grades 3 through 8 and grade 11, and scores are not reported. It does include Science assessments in grades 5, 8, and 10, which are reported here. Science assessments include the CAASPP science test results for students in eighth grade from the CST test only, not CAPA for science (which is for students with significant cognitive disabilities who are unable to take the CSTs even with accessibility supports and whose IEP indicates assessment with CAPA).

### EARLY EDUCATION

#### Preschool Enrollment

Data for preschool enrollment is for San Mateo and Santa Clara Counties, California, and the United States. The data are from the United States Census Bureau, 2006-2014 American Community Surveys. 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.

### ARTS & CULTURE

#### Arts Donations; Consumer Expenditures; Cultural Participation; Solo Artists

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 were collected in 2009-2011, and 2014 data were 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 – theatres, concert halls, clubs, arenas, outdoor amphitheatres, and stadiums. These estimates combine the most recent Consumer Expenditure Survey data with an annual modeling of spending patterns. Cultural participation data were collected between 2012 and 2014, and represents an average percentage. All indicators are for adults age 18 or over. Arts participation includes playing a musical instrument, attending popular entertainment (country music, R & B, hip-hop, and rock and roll performances, comedy and other 'stage' performances) and live performing arts (theatre, dance, symphony, opera), visiting art museums and zoos, purchasing music media or video online, and attending movies. Live Entertainment includes music concerts or other stage performances. Live Performing Arts includes theatre, dance, symphony, and opera. Recorded media include music, videocassettes and DVDs. Solo Artists are identified as solo artists by non-employer establishments in four-digit NAICS code 7115, which describes "Independent artists, writers, and performers." Nationally, there were 740,000 such solo artists in 2013.

# APPENDIX B

## SOCIETY *continued*

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### 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 includes 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). As a result, Body Composition scores from previous years should not be compared to 2013-14 and 2014-15 Body Composition scores.

## PLACE

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### HOUSING

#### **Trends in Home Sales**

Data are from Zillow Real Estate Research. Average Home Sale Prices are estimates based on San Mateo and Santa Clara County median sale prices and total number of homes sold. Annual estimates for Silicon Valley and California are derived from monthly median sale prices. California data for number of homes sold is based on the 29 of 58 California counties for which Zillow has published data. Beginning with the June 2008 data, Zillow changed its methodology for calculating the number of homes sold. Estimates 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 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 2015) for California data. Data are for single family residences, condos/co-ops, and are based on the closing date

### SAFETY

#### **Violent Crimes; Breakdown of Violent Crimes**

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 for Cities, Counties, and the State, 2011-2015, with 2010 Census Benchmark," and "E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts."

#### **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, 2007-2014 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.

#### **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. 2013 data was as of July 8, 2013. 2014 data was as of July 1, 2014. 2015 data was as of July 1, 2015.

recorded on the county deed. All standard real estate transactions are included, including REO sales and auctions. Annual median sale prices and forecasted annual home sales for 2015 are based on monthly data through October.

#### **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 2015 includes January through November 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

# APPENDIX B

## PLACE *continued*

building permits issued between 1998 and 2015. The 2015 estimate is based on data through November.

### Households

Data for average household size and number of households are from the United States Census Bureau, American Community Survey 1-Year 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 Household 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 the prior year (using data from the U.S. Census Bureau, American Community Survey 1-Year Estimates). The 2015 estimate of residential units in building permits issued is based on data through November.

### Progress Toward Regional Housing Need Allocation (RHNA), by Affordability Level

Data are from the Association of Bay Area Governments (ABAG), and were compiled primarily from Annual Housing Element Progress Reports (APRs) filed by jurisdictions with the California Department of Housing and Community Development (HCD). In certain instances when APR data were not available but permitting information could be found through other sources, ABAG made use of the following data sources: Adopted and certified housing elements for the period between 2007 and 2014; Draft housing elements for the period between 2014-2022; Permitting information sent to ABAG directly by local planning staff. Note that given that calendar year 2014 is in-between the 2007-14 and the 2014-2022 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 (2014-2022) RHNA cycle. ABAG did not include 2014 permitting information for jurisdictions that requested that their 2014 permits be counted towards their 2014-2022 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, Oakley, Contra Costa County, Mill Valley, Tiburon, Marin County, American Canyon, Calistoga, Benicia, and Petaluma. There was no data available for permits issued in 2013 or 2014 for Albany. Data were available only for 2014 for Portola Valley, Half Moon Bay, and San Anselmo. 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).

### Building Affordable Housing

Data are from Joint Venture Silicon Valley's annual land-use survey of all cities within Silicon Valley. There were 28 cities that participated in the affordable

housing portion of the FY 2014-15 survey, including Belmont, Brisbane, Burlingame, Colma, Cupertino, East Palo Alto, Foster City, Fremont, Gilroy, Hillsborough, Los Gatos, Menlo Park, Millbrae, Milpitas, Monte Sereno, Mountain View, Newark, Palo Alto, Portola Valley, Redwood City, San Carlos, San Jose, San Mateo, Santa Clara, Santa Clara County, Saratoga, South San Francisco, Sunnyvale, and Union City. Most recent data are for fiscal year 2015 (July 2014-June 2015). 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 November 11, 2015). The Zillow Rent Index is the median estimated monthly rental price for a given area, and covers single-family, condominium, and cooperative homes in Zillow's database, regardless of whether they are currently listed for rent. It is expressed in dollars and is seasonally adjusted. The Zillow Rent Index is published where available at the national, state, metro (CBSA), county, city, ZIP code and neighborhood levels. Some data for specific rental types was not available for the full year of 2011, 2012 and/or 2013. Rental rates have been rounded to the nearest dollar and 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 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 2015) 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 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, "Population Estimates for Cities, Counties, and the State, 2011-2015, with 2010 Benchmark". Median Apartment Rental Rates include multifamily complexes with more than five units. United States average rental rates are the average of all states in the Zillow Research database. The average excludes data for some states, which were unavailable for certain years. The 2014 apartment rental rate average excludes Vermont (January - August); the 2013 average excludes Vermont (entire year) and Alaska (January - September); the 2012 average excludes Vermont, Alaska and West Virginia (entire year), Wyoming and Kansas (January - May); and the 2011 average excludes Vermont, Alaska, Wyoming, Montana, Idaho, West Virginia, New Jersey (entire year), Florida (January), Wisconsin (January - April), Minnesota, Colorado, New Mexico, and Iowa (January - August), Oklahoma and South Dakota (January - June), Rhode Island (January - July), and Delaware (January - November). The 2014 single family residence, condo/co-op average excludes Wyoming (January - May) and Maine (January - July); the 2013 average excludes Maine and Wyoming (entire year), and South Dakota (January - October); the 2012 average excludes Maine, Wyoming, and South Dakota (entire year), and Texas (January - November); and the 2011 average excludes South Dakota, Montana, Texas, and Maine (entire year), Alaska, Nebraska, Florida, and Hawaii (January), Rhode Island (January - August), New Hampshire and Oregon

# APPENDIX B

## PLACE *continued*

(January - June), Idaho (January - February), Iowa and Kansas (January - April), Colorado (January - March), and Michigan (January - October).

### **Percent of Households with Housing Costs Greater than 35% of Income**

Data for owners' and renters' housing costs are from the United States Census Bureau, 2002-2014 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. Renter data are calculated percentages of gross rent to household income in the past 12 months. Owner 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 Public Use Microdata (PUMS) for 2014. Silicon Valley includes Santa Clara and San Mateo Counties. Multigenerational households include those with three or more generations living together.

## TRANSPORTATION

### **Vehicle Miles of Travel 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 Highway Performance Monitoring System (HPMS) data did not include functional class 7 (local roads) or data from federal agencies. This change was due to the migration of the 2014 HPMS to a new Linear Referencing System (GIS layer). The California Department of Finance's "E-4 Population Estimates for Cities, Counties, and the State, 2011-2014, with 2010 Census Benchmark" and "E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts" 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 2014 dollars, using the California consumer price index for all urban consumers from the California Department of Finance May Revision Forecast (April 2015).

### **Means of Commute**

Data on the means of commute to work are from the United States Census Bureau, 2004 and 2014 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 week 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, "Drove Alone" and "Carpool" include workers using a car (including company cars but excluding taxicabs), 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 taxicab, motorcycle, bicycle and other means that are not identified separately within the data distribution.

### **Annual Delay and Excess Fuel Consumption per Peak Hour Commuter; Number of Rush Hours per Day**

Data is from the Texas A&M Transportation Institute, Urban Mobility Information. The Urban Mobility Scorecard data is based on actual travel speed, free-flow travel speed, vehicle volume, and vehicle occupancy. The methodology is available at <http://d2dtl5nnpfr0r.cloudfront.net/tti.tamu.edu/documents/mobility-scorecard-2015-appx-a.pdf>. The value of travel delay for 2014 (estimated at \$17.67 per hour of person travel and \$94.04 per hour of truck time) and excess fuel consumption estimated using state average cost per gallon. Commuters include private vehicle owners only. The Number of Rush Hours represents the time when the road system might have congestion.

### **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, 2013 and 2014 American Community Survey, 1-Year Public Use Microdata Samples (PUMS) using the Place of Work PUMA and Employed Status Recode data for San Francisco, San Mateo, Santa Clara and Alameda Counties. Workers include civilian and Armed Forces residents over age 16 who were employed and at work in 2014. Cross-county commuters include are defined as 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, and rides on Caltrain. Data are provided by Sam Trans, Santa Clara Valley Transportation Authority, Altamont Corridor

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## PLACE *continued*

Express, and Caltrain. Data does not include paratransit, such as SamTrans' Redi-Wheels program. The California Department of Finance's "E-4 Population Estimates for Cities, Counties, and the State, 2011–2015, with 2010 Census Benchmark" and "E-4 Population Estimates for Cities, Counties, and the State, 2001–2010, with 2000 & 2010 Census Counts" 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. Cities included in the FY 2014-15 Residential Density analysis are Belmont, Brisbane, Burlingame, Cupertino, East Palo Alto, Fremont, Gilroy, Los Altos Hills, Los Gatos, Menlo Park, Milpitas, Monte Sereno, Mountain View, Newark, Palo Alto, Redwood City, San Carlos, San Jose, Santa Clara, Saratoga, South San Francisco, Sunnyvale, and Union City. Most recent data are for fiscal year 2015 (July 2014-June 2015). Residential density was calculated as the average residential density of the participating cities.

### Housing Near Transit; Development Near Transit

Data are from Joint Venture Silicon Valley's annual land-use survey of all cities within Silicon Valley. Cities included in the FY 2014-15 Housing Near Transit are Atherton, Belmont, Burlingame, Colma, Cupertino, Fremont, Gilroy, Hillsborough, Menlo Park, Millbrae, Milpitas, Mountain View, Palo Alto, Redwood City, San Carlos, San Jose, 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 2015 (July 2014-June 2015). The number of new housing units and the square feet of commercial development within one-third mile of transit are reported directly 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. Cities included in the FY 2014-15 Non-Residential Development Near Transit analysis are Atherton, Belmont, Brisbane, Burlingame, Colma, Cupertino, East Palo Alto, Foster City, Fremont, Gilroy, Hillsborough, Los Gatos, Menlo Park, Millbrae, Milpitas, Monte Sereno, Mountain View, Newark, Palo Alto, Redwood City, San Carlos, San Jose, Santa Clara, Saratoga, South San Francisco, Sunnyvale, and Union City.

## 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 servicing San Mateo County and for Alameda County Water District, which services the Cities of Fremont, Union City and Newark. These agencies include Brisbane/GVMID, Estero, Burlingame, Hillsborough, CWS - Bear Gulch, Menlo Park, CWS - Mid Peninsula, Mid-Peninsula, CWS - South

SF, Millbrae, Coastside, North Coast, Redwood City, Daly City, San Bruno, East Palo Alto, and Westborough. Cordilleras serves residents in San Mateo County, but is not a BAWSCA member and therefore was not included in this analysis. BAWSCA FY 2014-15 data is preliminary. Recycled Water Consumption Data is from the BAWSCA Water Conservation Database. Data for the population served used to compute per capita values does not include unincorporated areas of Santa Clara County. FY 2000-01 through FY 2011-12 BAWSCA service area populations are from Table 6 of the BAWSCA Annual Survey FY 2011-12 (p. 49). Data for SCVWD population served used to compute per capita values are from the California Department of Finance, E-1 Population Estimates as of January 1. The Scotts Valley Water District population figure for FY 2000 is based on the AMBAG GIS-based analysis of 2000 census block population data; the 2010 population figure is based on the 2010 census block population data, and population estimates for the years in between, as well as 2011-2015, are derived from a linear interpolation. 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 so 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 and 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 2014 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 for Cities, Counties, and the State, 2011–2015, with 2010 Census Benchmark," "E-4 Revised Historical City, County and State Population Estimates, 1991–2000, with 1990 and 2000 Census Counts," and "E-4 Population Estimates for Cities, Counties, and the State, 2001–2010, with 2000 & 2010 Census Counts."

### 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 Other includes Non-Profit, Government, Industrial and Utility. Cumulative installed 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 California Solar Statistics, which publishes all IOU solar PV net energy metering (NEM) interconnection data per CPUC Decision (D.)14-11-001. Palo Alto residential systems with missing system sizes were counted as 4 kW.

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## PLACE *continued*

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### **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. 2015 data are as of November 2, 2015, and 2014 data were as of November 14, 2014.

### **Electric Vehicle Adoption; Electric Vehicle Adoption, by Make**

Data is from the California Air Resources Board Clean Vehicle Rebate Project, Rebate Statistics. Data last updated December 21, 2015. Retrieved December 22, 2015 from <https://cleanvehiclerebate.org/rebate-statistics>. Silicon Valley data includes Santa Clara & San Mateo Counties. Electric vehicles include

Plug-In Hybrid Electric Vehicles (PHEV), All-Battery Electric Vehicles (BEV), Fuel-Cell Electric Vehicles (FCEV), and other non-highway, motorcycle & commercial BEVs. 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

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### **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 reflects revisions/corrections. 2014 data was obtained from the Fiscal Year 2013-2014 reports. All amounts have been inflation-adjusted and are reported in 2014 dollars, using the Bay Area consumer price index for all urban consumers from the Bureau of Labor Statistics, 2014 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 2014) 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 or 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. Other includes Green, Libertarian, Natural Law, Peace & Freedom/Reform, and Other. The population eligible to vote is determined by the Secretary of State using Census population data provided by the California Department of Finance. Data are for Santa Clara and San Mateo counties.

#### **Eligible Voter Turnout, by Age**

Eligible Voter Turnout by Age is from the California Civic Engagement Project, Center for Regional Change at U.C. Davis, using data from the California Secretary of State and California Department of Finance, and is for the November 4, 2014 general election. Total voter turnout is from the California Secretary of State, Elections Division. Silicon Valley includes Santa Clara and San Mateo Counties.

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### **Joint Venture Silicon Valley**

Established in 1993, Joint Venture Silicon Valley provides analysis and action on issues affecting our region's economy and quality of life. The organization brings together established and emerging leaders – from business, government, academia, labor and the broader community – to spotlight issues, launch projects, and work toward innovative solutions.

### **Silicon Valley Institute for Regional Studies**

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



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