

# i n d e x

OF

## SILICON VALLEY

2013

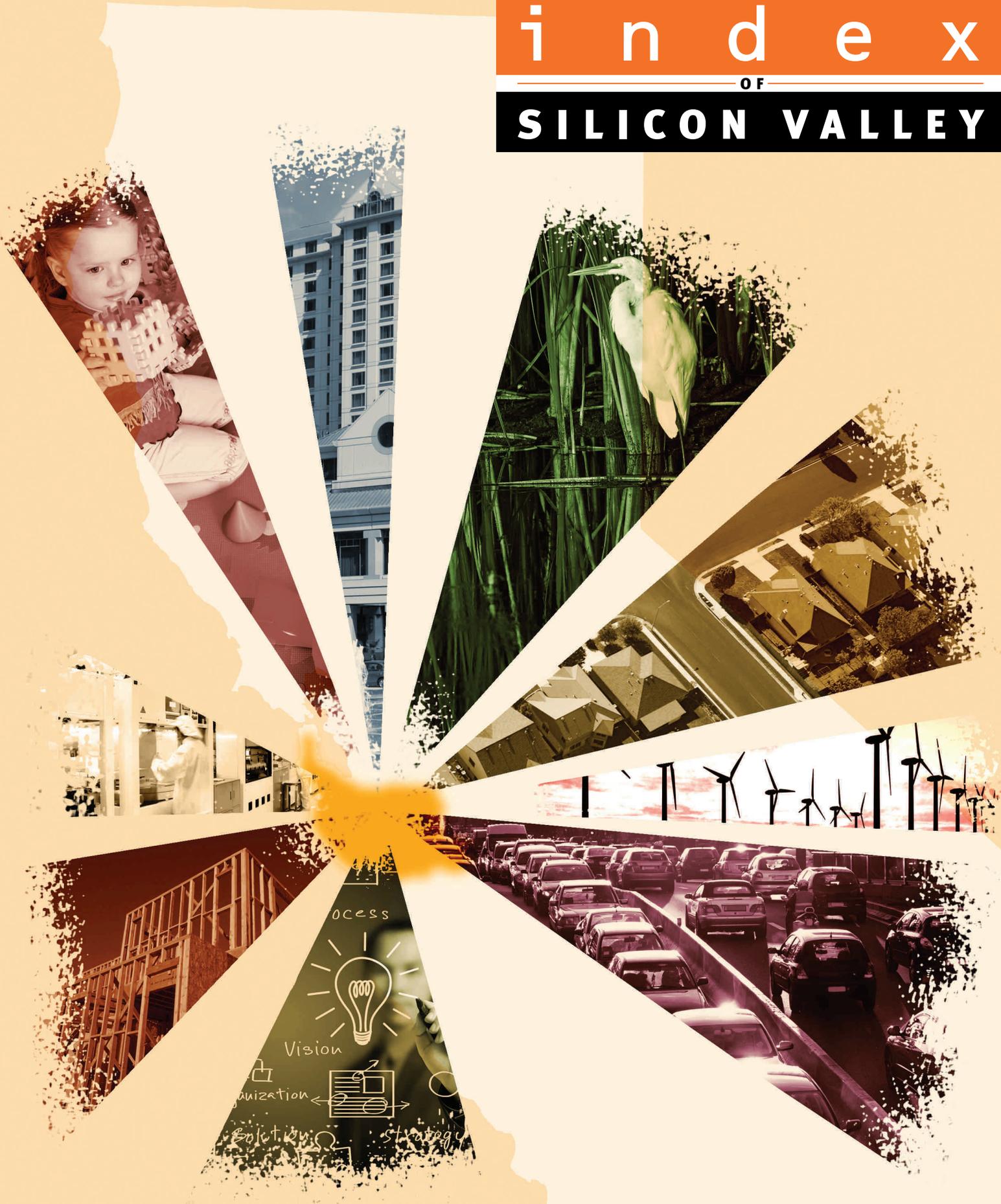
GOVERNANCE

PLACE

SOCIETY

ECONOMY

PEOPLE



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## ABOUT THE 2013 SILICON VALLEY INDEX

Dear Friends:

Silicon Valley has rebounded from the recession, but persistent challenges remain. How we use this recovery to address these challenges will determine our future competitiveness and quality of life.

The region is adding jobs faster than it has in more than a decade, and at a faster rate than the rest of California and the nation. Over the past year the Valley swelled by 42,360 jobs and the quarterly growth rate reached four percent, the highest we've seen in over a decade. Those numbers swell dramatically if we add San Francisco into the head count.

San Francisco's impressive performance raises interesting and important questions about the Bay Area's growing connectedness and interdependencies. It's clear that technology, innovation, and entrepreneurship are no longer clustering in the South Bay alone, and the spread of these activities forces our region to address questions of integration that have long been ignored. This year's Special Analysis looks at those issues in depth and suggests it is time Silicon Valley and the greater Bay Area take a fresh look at regional planning and decision making.

This year's Index also makes it clear that our current economic growth, however widespread, is not a cure-all. The rebound has not reached all our residents, and it is not addressing the most serious challenges there were here before the recession and which remain with us today. A large and growing education deficit keeps too many residents from sharing in the new prosperity. The high school drop-out rate is rising. Incomes continue to slip for our Hispanic and African American populations, while rising for other groups. Housing starts have not recovered to pre-recession levels, and the percentage of income spent on rent has reached a decade high (46 percent).

The Index shows Silicon Valley maintaining its status as the world's major innovation hub, with solid gains in patent registrations and IPOs. And yet it is also clear we cannot take those advantages for granted. Our report also shows a decline in venture capital investment, and though there has been growth in angel financing and conventional loans, we may be on the cusp of a disruptive shift in the Valley's financing model.

As our economy continues to grow, and as that growth takes on a wider footprint, the 2013 Index challenges us to think more expansively about all the associated challenges, to become more regionally integrated, and to ensure that our growth is more widely shared.

Sincerely,



Russell Hancock, Ph.D.  
President & Chief Executive Officer  
Joint Venture Silicon Valley



Emmett D. Carson, Ph.D.  
CEO & President  
Silicon Valley Community Foundation



# THE SILICON VALLEY REGION

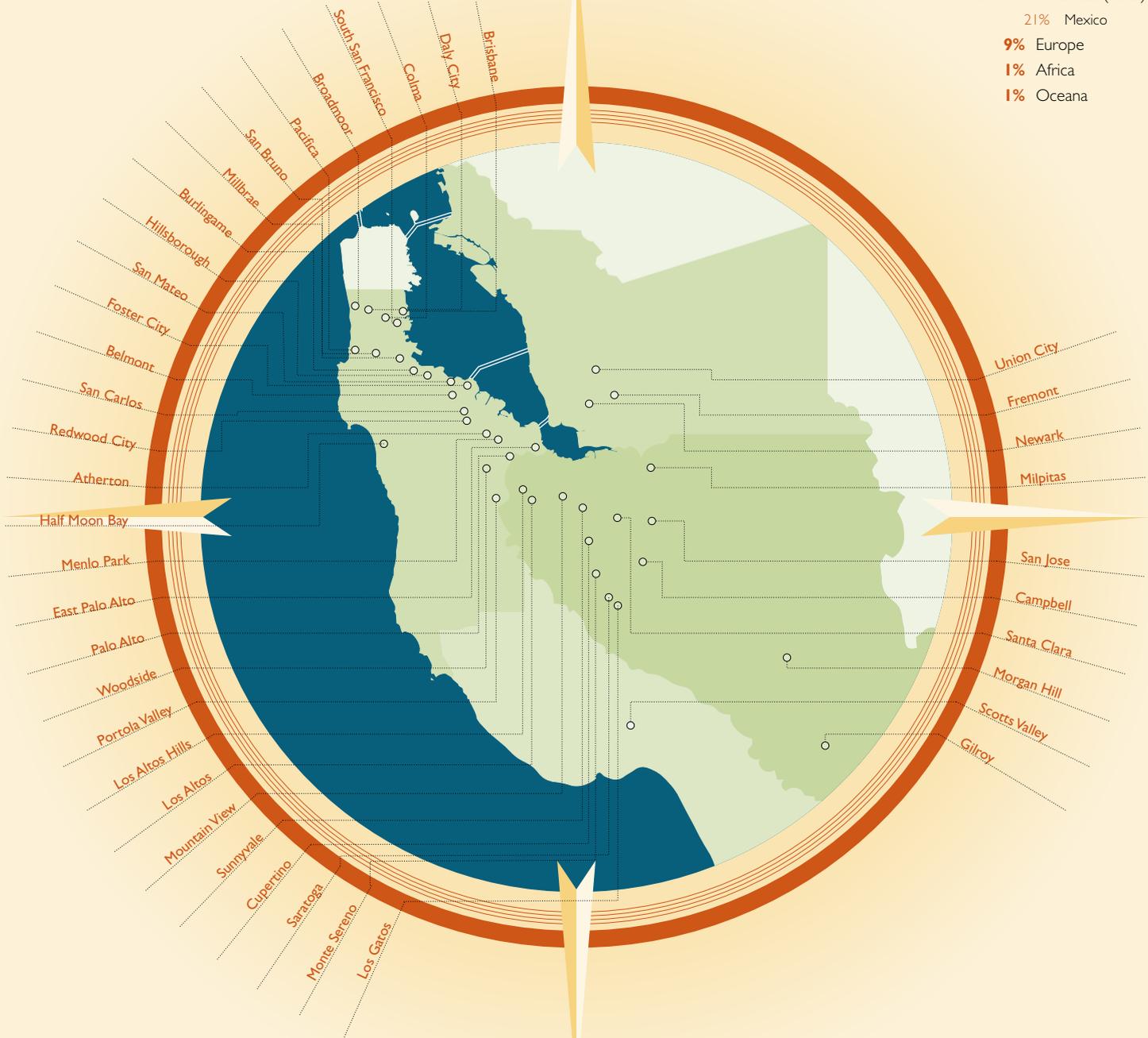
**Area:** 1,854 square miles  
**Population:** 2.9 million  
**Jobs:** 1,384,663  
**Average Annual Earnings:** \$88,981  
**Net Foreign Immigration:** +10,955  
**Net Domestic Migration:** +241

**Adult educational attainment:**  
**13%** Less than High School  
**17%** High School Graduate  
**25%** Some College  
**26%** Bachelor's Degree  
**19%** Graduate or Professional Degree

**Age distribution:**  
**23%** 17 and under  
**8%** 18-24  
**30%** 25-44  
**26%** 45-64  
**12%** 65 and older

**Ethnic composition:**  
**37%** White, non-Hispanic  
**30%** Asian, non-Hispanic  
**27%** Hispanic  
**2.5%** Black, non-Hispanic  
**4%** Multiple and Other

**Foreign Born: 36%**  
**Origin:**  
**59.5%** Asia (Total)  
 14% China  
 12% Philippines  
 11% Vietnam  
 11% India  
**29.5%** Americas (Total)  
 21% Mexico  
**9%** Europe  
**1%** Africa  
**1%** Oceania



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. Silicon Valley is thus 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

**Alameda County**

Fremont, Newark, Union City

**San Mateo County (all)**

Atherton, Belmont, Brisbane, Broadmoor, 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

**Santa Cruz County**

Scotts Valley

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# 2013 INDEX HIGHLIGHTS

**Silicon Valley is experiencing a new wave of prosperity led by solid job growth. However, this prosperity is not shared by all residents and has not resolved the challenges that faced the region prior to the recession.**

***Some indicators have shown positive regional growth:***

**Silicon Valley has been adding jobs.**

- Silicon Valley's quarterly employment increased four percent from Q2 2011 to Q2 2012, the highest annual growth in more than a decade.
- Monthly employment in Santa Clara and San Mateo Counties grew from December 2011 to December 2012, adding 42,360 jobs. San Francisco created 15,900 jobs over the same period.
- The public sector continues to be squeezed, losing over 1,130 local government jobs from 2007 to Q2 2012.
- All major areas of economic activity, except for manufacturing and life sciences, increased employment from Q2 2011 to Q2 2012.
- The regional unemployment rate is 7 percent and rates have declined across all ethnicities since 2010, although ranging from six to ten percent.

**Silicon Valley expands its talent pool, both domestically and from abroad.**

- In 2011, nearly two thirds of Silicon Valley professionals with higher education working in science and engineering fields were born outside of the United States, a number more than twice the national average for similar professions and education levels (64 percent in Silicon Valley and 26 percent nationally).
- The educational level of residents in Silicon Valley was higher than in California overall across all ethnic groups in 2011. These rates increased across all ethnic groups except African Americans and Hispanics.
- The number of full time arts and culture employees jumped eight percent in 2010 to 4,200.

**Residents are changing their habits and improving environmental conditions, while transit continues to keep our region interconnected.**

- Silicon Valley has decreased its daily per capita waste disposal 36 percent since 1995, reporting a six percent drop over the past year.
- Electricity productivity improved 5.2 percent as per capita electricity consumption fell 2.5 percent.
- Transit ridership increased 1.3 percent in 2012 to 27.5 rides per capita.
- The San Francisco peninsula is increasingly integrated. Over a third of peninsula commuters live in Silicon Valley and work in San Francisco, while a quarter make the opposite commute.

***Other indicators show a mixed message as pre-recession challenges remain:***

**Income growth is uneven.**

- Reporting the third consecutive year of growth, real per capita income inched up 2.2 percent, and nears pre-recession levels.
- In contrast, median household income hit an 11-year low of \$84,724 in 2011, while remaining 45 percent above the state.
- Income differs sharply by educational level, with median income for residents with graduate degrees five times higher than residents without a high school degree. Since 2009, median income has fallen for all educational levels except for those with graduate or professional degrees.

- The majority of ethnicities and races saw improved per capita income in 2011, except for African Americans and Hispanics whose per capita income fell 18 percent and five percent, respectively.
- Since 2005, the proportion of middle income households has declined by three percent.
- Food stamp participation in the region exceeded a decade high of five percent, though it was less than half of the California average.

### **The housing recovery is uneven. Renters continue to feel the pressure as rents increase, while homeowners are faring better.**

- The number of housing starts remains low, despite the strong job recovery.
- The percentage of affordable housing units fell to a 15-year low of two percent of new approved residential units.
- Average rents hit a historical high of \$1,966 and a growing percentage of renters spend more than 35 percent of their income on rent.
- Residential foreclosures declined 41 percent from the first half of 2011 to the first half 2012.
- Average home prices stabilized in 2012 at \$671,926, as the number of home sales through Q2 2012 ticked up 12 percent from a year prior.
- The percentage of Silicon Valley homeowners with mortgages higher than the worth of their home was 19 percent in Q2 2012, though there was extensive variation between cities in the region, ranging from two to 37 percent.

### **Financing and innovation assets are mixed.**

- Total patent registrations ticked up, though they represent a smaller portion of total statewide patents.
- Silicon Valley venture capital investment fell 17 percent in 2012 and is more greatly concentrated in Software, which comprises 38 percent of total investment.
- In 2011, the amount of federal Small Business Innovation and Technology (SBIR/STTR) funding received by Silicon Valley small businesses increased 30 percent to nearly \$91 million, though the number of awards fell.
- The number of small business loans grew faster than the total loan amount, suggesting banks issued more small loans in 2011; the number of loans issued increased 16 percent, and total loan values rose five percent.
- Silicon Valley reached a five-year high of 17 initial public offerings (IPOs) in 2012, representing 52 percent of statewide IPOs and 15 percent nationally.
- Entrepreneurship has been constrained in recent years by lack of access to financing; however, a 90 percent growth in angel investments in 2012 suggests an improved investment environment.
- Mergers and acquisitions (M&As) dropped in 2012, but continued to comprise a growing portion of total statewide M&As.

### **Greater disengagement of youth is present in our region as well as statewide.**

- During the 2010-11 school year, high school dropout rates increased three percent to 14 percent, while graduation rates fell a percentage point to 87 percent. However, youth in Silicon Valley were more likely to be working or in school than their peers statewide; the region's proportion of disconnected youth was four percent lower than in California overall.
- Juvenile felony drug offenses edged up to 152 offenses per 100,000 juveniles, and the number of substance abuse rehabilitation clients shot up 13 percent in 2010.
- For the first time in four years, the percentage of eighth graders scoring advanced on the Algebra I test fell.

### **While some traditional health concerns are less prevalent, new issues are surfacing.**

- Infant mortality rates subsided to a nearly two-decade low of 2.9 deaths per 1,000 live births.
- Of employed Silicon Valley residents between the ages of 18 and 64, 87 percent were covered by health insurance in 2011, compared to 78 percent statewide.
- Student obesity levels in Silicon Valley remained consistent at around 33 percent of the student population, while adult obesity rates have fluctuated. The proportion of the population that is overweight fell to 29.7 percent, while the obesity rate reached a decade high of 18.8 percent.
- Over a third of Silicon Valley residents between the ages of 53 and 64 provided care to a family member or friend in 2009.

# THE 2013 INDEX AT A GLANCE

## WHAT IS THE INDEX?

The Silicon Valley Index has been telling the Silicon Valley story since 1995. Released early 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?

Indicators are measurements that tell us how we are doing: whether we are going up or down, moving forward or backward, getting better or worse, or staying the same.

### Good indicators:

- Are bellwethers that reflect fundamentals of long-term regional health
- Reflect the interests and concerns of the community
- Are statistically measurable on a frequent basis
- Measure outcomes, rather than inputs

*Appendix A provides detail on data sources for each indicator*

## PEOPLE

Silicon Valley continues to attract foreign and domestic talent, while educational attainment differs by racial and ethnic group.

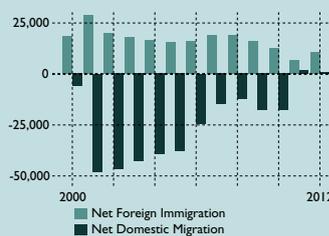
### Net Population Change



### Percent Change between 2011 and 2012

Silicon Valley **+1.2%** ↑  
California **+0.7%** ↑

### Net Migration Flows

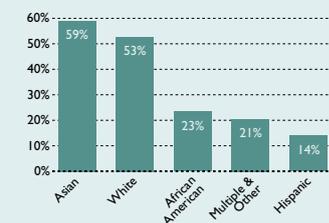


### Absolute Change between 2011 and 2012

Net Foreign Immigration **+3,579** ↑  
Net Domestic Migration **-1,519** ↓

### Educational Attainment

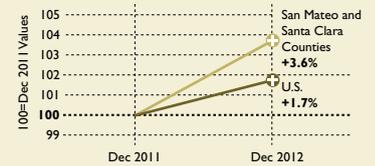
Percentage of Adults with a Bachelor's Degree or Higher, by Ethnicity – 2011



## ECONOMY

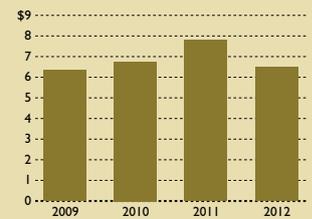
Regional employment has posted solid gains and innovative measures vary.

### Change in Jobs Relative to December 2011



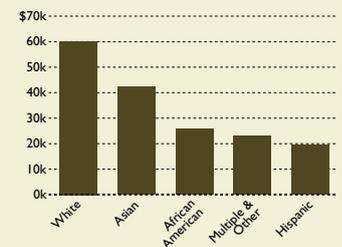
### Venture Capital Investment

Silicon Valley - Billions of Dollars Invested



### Per Capita Income

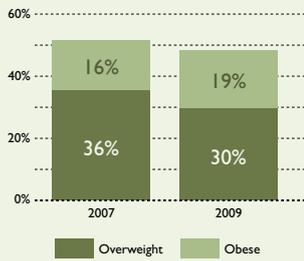
by Race & Ethnicity – 2011



## SOCIETY

Student preparedness is in question and some health outcomes remain a concern.

### Adult Obesity Rates

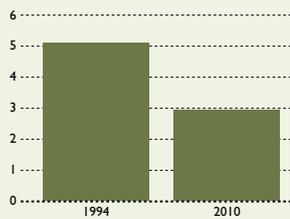


### High School Graduation



### Infant Mortality Rate

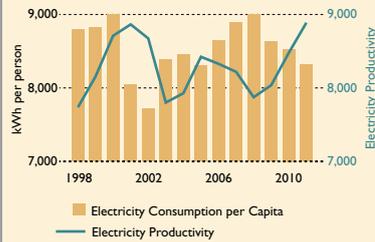
Number of Deaths per 1,000 Live Births



## PLACE

Progress on environmental sustainability is mixed as electricity consumption falls but vehicle miles traveled grows. Homeowners are feeling relief as residential foreclosures drop substantially.

### Electricity Productivity and Consumption per Capita



### Vehicle Miles of Travel per Capita and Gas Prices



### Number of Residential Foreclosures

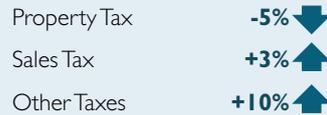
	2008	2010	% Change
Silicon Valley	8,831	5,879	-33%
California	238,396	154,519	-35%

## GOVERNANCE

City revenue increased slightly in 2011 for the first time since the recession.

### Change in City Revenue

Fiscal Year 09/10-10/11



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## Strengthening the Bay Area's regional governance

Prepared by Egon Terplan, SPUR

**M***uch of what makes Silicon Valley and the overall nine-county Bay Area a great place to live and work is the result of regional decisions. Over half a century ago, leaders in the Bay Area looked to the future and made choices involving tradeoffs and sacrifices.*

<sup>1</sup> Special thanks to Joshua Karlin-Resnick for research and writing support on this report.

We protected large areas of open space ringing our communities and limited development along the coast. We saved the Bay from being turned into a narrow shipping channel with urban development spreading onto newly reclaimed land. We built BART to connect people in emerging suburbs to the urban core and saved Caltrain when it was threatened with extinction. Imagine the Bay Area today without dedicated open space ringing the Bay, a BART and Caltrain system that may soon carry half a million riders daily, or with a virtually nonexistent Bay, replaced by subdivisions and office parks.

For many of these regional victories we also established a new governance institution to address these issues in perpetuity. The Golden Gate National Recreation Area manages land in three counties. The Bay Conservation and Development Commission (BCDC) manages issues of growth along the Bay shoreline. BART is an agency with an elected board that is responsible for building and maintaining a rail system in four and soon five counties. The Peninsula Joint Powers Board owns and operates Caltrain across three counties.

As we look to the future, there are new and lingering challenges we must address. In fact, some of the biggest threats to the Bay Area's long-term economic competitiveness are challenges best addressed through stronger or more effective regional governance.

- *Overall job growth is constrained by limited housing production, as many individual jurisdictions do not view housing growth in their self-interest.*
- *Highway congestion results because jobs are scattered throughout the region, often far from transit.*
- *Tax receipts are highly unequal between neighboring jurisdictions even though residents in one town work in the next.*
- *For transit riders, navigating a regional system with 27 individual operators and dozens of different fares is difficult. Transformative infrastructure like high-speed rail is stymied by a myriad of local concerns. Thousands ride private shuttles daily to sites throughout Silicon Valley in part because there is no viable transit alternative.*
- *And the growing reality of climate change threatens much of Silicon Valley's economic health through risks from flooding, rising tides and storm surges. Key pieces of regional infrastructure such as airports and ports are also threatened. New York and New Jersey's experience with storm surges from Hurricane Sandy demonstrates both the significant economic consequences of such storms as well as the urgency of developing a regional response.*

While many of the Bay Area's 100-plus local cities and nine counties are trying to respond to these important issues, they are not capable of solving them alone. Quite simply, jobs, housing, transit and climate change are regional challenges. By definition, regional issues require regional solutions.

Failing to address these regional problems means risking the Bay Area's economic standing globally. We face increasing competition. Places like Singapore, Shanghai, Vancouver, and São Paulo are not just cities but city-regions that are acting and working regionally. Within the United States, Portland and Minneapolis have long been held up as models for better regionalism. What can we learn from these places and other metropolitan areas? What are the risks of not working regionally?

This year's Special Analysis asks and explores the following questions: "What major regional issues could threaten our economic success?" and "How is our current system of governance inadequate to respond to these threats?"

## Why regions matter

*Regions are the scale where we compete globally.* The ingredients for successful economic development are found at the scale of a region – access to labor, education, innovation, finance, housing, specialized infrastructure and quality of life. When these inputs are strong, the region's industry clusters thrive and grow.

*Successful regions give residents more opportunities.* We are living in an era of increasing divergence among regions. Those who live in economically prosperous regions earn significantly higher wages than those who live in struggling regions. Geography in fact matters more than education. A high school graduate in San Jose earns 60 percent more than a college graduate in Flint.<sup>2</sup>

*Maintaining a successful region requires smart decisions at all levels.* Maintaining a strong region requires coordination of major systems – like transportation and natural resources – that cut across jurisdictional boundaries. Planning and preserving key corridors for highways, rail lines, power lines, water pipes and goods movement requires effective regional planning. So too does planning to maintain and preserve natural systems like shorelines, waterways, habitats and air basins. Resources like food, energy and water are also generated and supplied regionally.

<sup>2</sup> Moretti, Enrico. "The New Geography of Jobs." Presentation at SPUR Urban Center: November 14, 2012.

*At a local level and without intention, cities often thwart regional competitiveness.* For example, when cities decide to restrict or curtail the growth in housing, prices rise, workers are forced into long commutes and the region suffers with higher prices, more traffic and demands to build new infrastructure to connect workers to their more remote jobs. Over time, high housing costs act as an overall deterrent to job growth and can dim a region's economic prospects.

### The Bay Area's fragmented system of governance

Throughout the Bay Area there are 101 incorporated cities and towns,<sup>3</sup> numerous special-purpose agencies, 27 transit operators, nine counties and more than a dozen regional agencies for air, water, open space and other functions.

Each of the regional agencies with a multi-jurisdictional purview has a single or narrow purpose. The Bay Area has no unifying regional government entity whose role is to integrate and balance among sometimes competing values. Instead, our single purpose agencies specialize in specific areas – like improving air quality or limiting coastal development. While born from different moments, these regional agencies were designed to be limited in scope and emphasis and might not have succeeded were they to have begun with a broader focus from their outset.

The following are the key single purpose regional agencies in the Bay Area:

- *The Metropolitan Transportation Commission (MTC) manages and funds regional transportation projects and oversees most of the region's bridges. The 21-person board includes 16 voting members selected by elected officials within each county, two voting members representing BCDC and ABAG respectively and three non-voting members representing specific state and federal agencies.<sup>4</sup> As of January 2013, the board includes representatives selected by the Mayors of Oakland and San Jose, marking MTC's first change in governance in 42 years.*
- *The Association of Bay Area Governments (ABAG) produces a regional and local growth forecast for jobs, population and housing and performs long-range land-use planning. Its 38-member Executive board is appointed locally, with 35 members proportionally reflecting city and county populations.*
- *The Bay Area Air Quality Management District (BAAQMD) regulates air quality and emissions. Started by the legislature in 1955, it was the first regional pollution-control board in the country.<sup>5</sup> Its 22-member board is roughly proportional by County population and selected within each county.*
- *The Bay Conservation and Development Commission (BCDC) issues permits for filling, dredging, and changes in use around and within the San Francisco Bay. Former by legislation passed in 1965, its current jurisdiction extends 100 feet inland of the shoreline. Its 27-member board includes a mix of appointees from the State, counties and ABAG.<sup>6</sup>*
- *The San Francisco Bay Area Regional Water Quality Control Board is a state agency charged with protecting natural water systems and regulates discharges to the water system (like the Bay and ocean). The Governor appoints its board.<sup>7</sup>*
- *The California Coastal Commission works with local cities and counties to help plan and regulates the use of land directly along the Pacific Coast (ranging from several hundred feet to the first public road). State officials appoint its 15-person board (12 voting) and its 12 voting members including six from the general public and six who are locally elected officials.<sup>8</sup>*

*The Bay Area regional governance structure has long put locally elected officials in charge of nearly all major regional decisions, in part due to concerns that a regional agency will make decisions against the interests of local governments. MTC, ABAG, BCDC and the Air District consist primarily of locally elected officials – County Supervisors, City Councilmembers and Mayors. While many of the locally elected officials on regional bodies understand the need for regional action, they are often skeptical of giving more authority to the regional agency to respond more forcefully. As a result, our existing regional agencies have limited authority that is often contested.*

*Individually, all the regional agencies have some authority to say “No,” such as denying an additional permit (in the case of BCDC or the Air District) or limiting funding for a particular transportation project (in the case of MTC). But they have limited authority or impact to say, “Yes,” or to proactively solve major regional challenges.*

*When the existing regional agencies were established, many expected that they might be able to move beyond their limited focus to deal with multiple regional challenges.<sup>9</sup> Over the years there have been many proposals and near mergers of some of the regional agencies.<sup>10</sup>*

<sup>3</sup> See: [http://www.abag.ca.gov/abag/local\\_gov/city/city.html](http://www.abag.ca.gov/abag/local_gov/city/city.html)

<sup>4</sup> See: [http://www.mtc.ca.gov/about\\_mtc/about.htm](http://www.mtc.ca.gov/about_mtc/about.htm)

<sup>5</sup> See: <http://www.baaqmd.gov/The-Air-District.aspx>

<sup>6</sup> See: <http://www.bcdc.ca.gov/permits/faqs.shtml>

<sup>7</sup> See: [http://www.waterboards.ca.gov/sanfranciscobay/about\\_us/board\\_members.shtml](http://www.waterboards.ca.gov/sanfranciscobay/about_us/board_members.shtml)

<sup>8</sup> See: <http://www.coastal.ca.gov/roster.html>

<sup>9</sup> Bodovitz, Joseph E. Bay Area Regionalism: Can We Get There? September 2003. Available at: <http://www.spur.org/publications/library/article/bayarearegionalism09012003>

<sup>10</sup> The closest perhaps was Bay Vision 2020 that proposed merging MTC, ABAG and the Air District as an initial step toward a fully comprehensive regional agency. Despite great civic and political leadership (including State Senator Rebecca Morgan who introduced the bill), it died in the final day of the legislative session in 1992, two Senate votes short of final passage.

*In the wake of failures in the 1990s for stronger regionalism, members of the boards of MTC, ABAG, BCDC and the Air District began meeting together bimonthly in 2004 at a “Joint Policy Committee” where board members and executive staff from these four regional agencies talk about overlapping issues.<sup>11</sup> But this “Joint Policy Committee” has no authority to prohibit or mandate anything collectively.*

*Senate Bill 375, passed in 2008, holds promise for better regional planning. By requiring the region’s long-range transportation plan to have a land use component and to demonstrate how the region can grow in a way that reduces pollution from driving, it forces greater collaboration between ABAG, MTC and other regional agencies. But, while it implies the need to target transportation funds in ways that best reduce driving, it makes no changes to existing governance of single-purpose regional agencies and includes no requirement that local governments change local zoning to support regional goals.*

*Ultimately, the Bay Area today lacks an effective way to integrate land use planning, transportation, natural-resource protection, air quality and climate change adaptation. There is no entity that balances these goals, no plan that proposes solutions that cut across these issues and no new powers that trump the single-purpose goals of the existing institutions. The process to produce Plan Bay Area, the Bay Area’s combined Sustainable Communities Strategy and Regional Transportation Plan, is an important step towards conceptually integrating these various concerns and posing the key tradeoffs.<sup>12</sup> Achieving a more concentrated development pattern that reduces greenhouse gas emissions may require the creation of a new comprehensive regional entity with new powers and a mandate to integrate land use, transportation, air quality and climate change.*

But this long-proposed goal of a single comprehensive regional entity is only one potential solution to the region’s governance. Understanding today’s big regional challenges in more detail may yield other options that were not considered in prior efforts at regional reform.

## **What are key regional issues for Silicon Valley as part of the Bay Area region?**

Many of the historical challenges of transportation and housing remain as key regional issues. But there are newer and different issues emerging today that were less prominent in prior efforts at regional reform. This analysis highlights five key regional issues that threaten long-term competitiveness and regional performance:

- *Job sprawl;*
- *Limited housing production;*
- *Competition for tax revenues and resulting fiscal inequities and among jurisdictions;*
- *Fragmented regional transit service with limited coordination;*
- *Lack of preparation to respond to inevitable consequences of climate adaptation.*

There are numerous other issues of regional concern, each reflective of an inadequate governance system. These include preparing for a major earthquake and drafting a long-term recovery plan post-event, identifying sufficient supply of drinking water for the region’s future needs, or ensuring that the region’s three major airports remain fiscally strong and can effectively manage demand among them to reduce crowding and delays.

The five issues we selected are challenges with solutions from other regions that point a possible way forward for the Bay Area. Solving them requires collaboration across jurisdictions or separate institutions. Addressing them will strengthen the region’s economic competitiveness; ignoring them will threaten it.

### **Issue 1: Jobs are sprawling in a decentralized pattern with too few adjacent to reliable transit.**

During the post WWII years – when regional planning laid the groundwork for our great regional victories around transportation and open space – *jobs were more heavily concentrated in fewer centers.* San Francisco alone accounted for 30 percent of the Bay Area’s jobs in 1960.<sup>13</sup> Today it is about 16 percent.

Increasingly, jobs are spreading out and existing centers and transit areas are not capturing a big share of the growth. While the decades since 1960 coincide with the rise of Silicon Valley and the boom in jobs in Santa Clara County, the pattern of those jobs was a shift from the past. Most new employment took place in emerging office parks and corporate campuses with easy access to freeways and suburban arterials.

<sup>11</sup> See: <http://www.abag.ca.gov/jointpolicy/>

<sup>12</sup> See: <http://onebayarea.org/regional-initiatives/plan-bay-area.html>

<sup>13</sup> Terplan, Egon et al. (2009). *The Future of Downtown San Francisco: Bringing work back to the city.* Available at [http://www.spur.org/files/event-attachments/SPUR\\_The\\_Future\\_of\\_Downtown\\_San\\_Francisco.pdf](http://www.spur.org/files/event-attachments/SPUR_The_Future_of_Downtown_San_Francisco.pdf)

# Talent Flows and Diversity

*Silicon Valley continues to attract foreign and domestic talent, while educational attainment differs by racial and ethnic group.*

# PEOPLE

## 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 number of deaths). Delving into the diversity and makeup of the region's people lends a way to better understanding our assets and outlining our challenges.

The number of science and engineering degrees awarded regionally helps to gauge how well Silicon Valley is preparing talent for our specialized, export-oriented industries. A local workforce equipped with strong skills is a valuable resource for generating new ideas and innovative 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. In particular, immigrant entrepreneurs have contributed considerably to innovation and job creation in the region.<sup>1</sup> Maintaining and increasing these flows vastly improves the region's potential for closer integration with other innovative regions and thereby bolsters its global competitiveness.

## HOW ARE WE DOING?

Silicon Valley's population continues to grow at an increasing rate, driven primarily by an influx in foreign migration. While historically stable, natural population change (births minus deaths) continues a pattern of decline, falling three percent from 2011. Net migration has reached a 15-year high with a net gain of over 11,000 people. Diverging from the historical pattern of net out-flows of American citizens from Silicon Valley, both foreign-born and domestic residents comprised the migration increase into the region over the past two years.

Silicon Valley's population has a higher concentration of young working-age residents than the nation. In Silicon Valley, 25 to 44 year olds represent the largest portion of the region's population, a trend mirrored in the state. In contrast, nationwide, the 45 to 64 year old age bracket is the largest age group. Although age distribution across the three geographies is similar, Silicon Valley has a lower percentage of residents under age 24 compared with the state and nation.

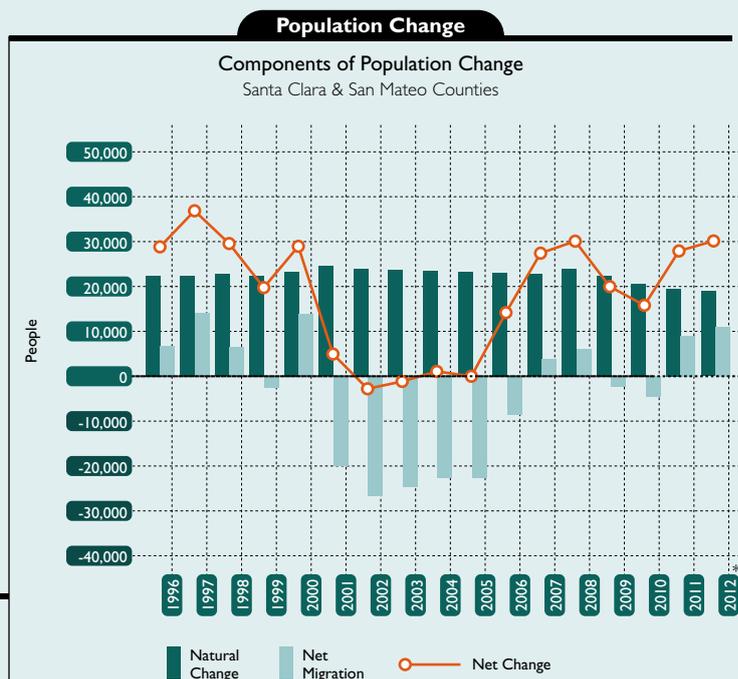
<sup>1</sup> AnnaLee Saxenian. 2002. *Local and Global Networks of Immigrant Professionals in Silicon Valley*. San Francisco: Public Policy Institute of California. See also, S. Anderson & M. Platzer. 2006. "American Made: The Impact of Immigrant Entrepreneurs and Professionals on U.S. Competitiveness." National Venture Capital Association.

Silicon Valley's population is growing at an increasing rate, **driven by expanding migration**

Educational attainment across all ethnic and racial groups is notably higher in Silicon Valley than the state. Since 2006, gains have been made across a majority of ethnicities in the region. In 2011, the share of Asian adults with at least a bachelor's degree rose to 59 percent, compared to 49 percent statewide. However, the proportion of Hispanic and African American adults with higher education levels slipped, to 23 percent and 14 percent respectively. Statewide, California has made steady improvements across all ethnic and racial groups since 2006.

The number of science and engineering (S&E) degrees conferred in the region has consistently grown since 2007 and has expanded 32 percent since 1995. Silicon Valley reported a three percent increase in S&E degrees conferred in 2011 compared to six percent nationally.

Silicon Valley continues to attract a high proportion of foreign-born professionals, particularly in science and engineering. In 2011, almost half of all employed Silicon Valley residents with a bachelor's degree or higher were foreign-born. Sixty-four percent of those in science and engineering were foreign born. This compares with only 26 percent of science and engineering professionals nationwide. While the number of foreign-born professionals in Silicon Valley decreased slightly with the Great Recession, numbers have increased since 2009 to more than 270,300 in 2011, 40 percent of whom are in science and engineering industries.



\* Provisional population estimates for 2012  
Data Source: California Department of Finance  
Analysis: Collaborative Economics

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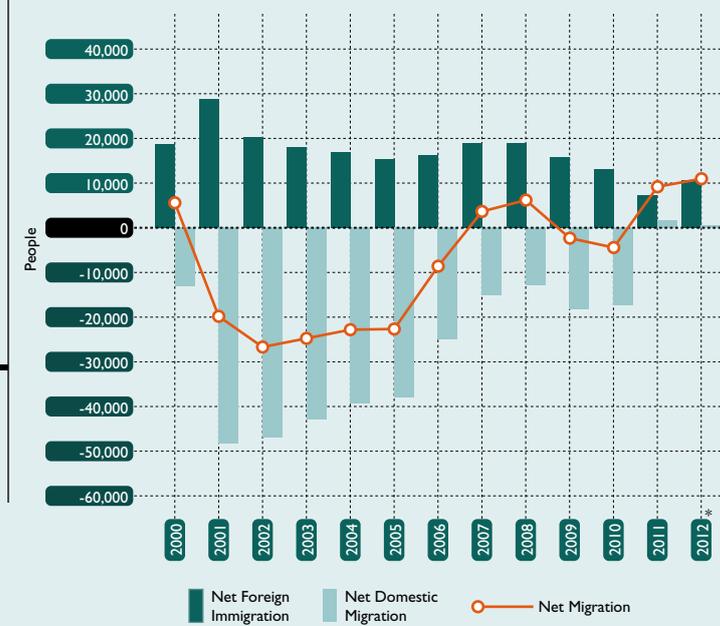
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Net Migration Flows

Foreign and Domestic Migration  
Santa Clara & San Mateo Counties

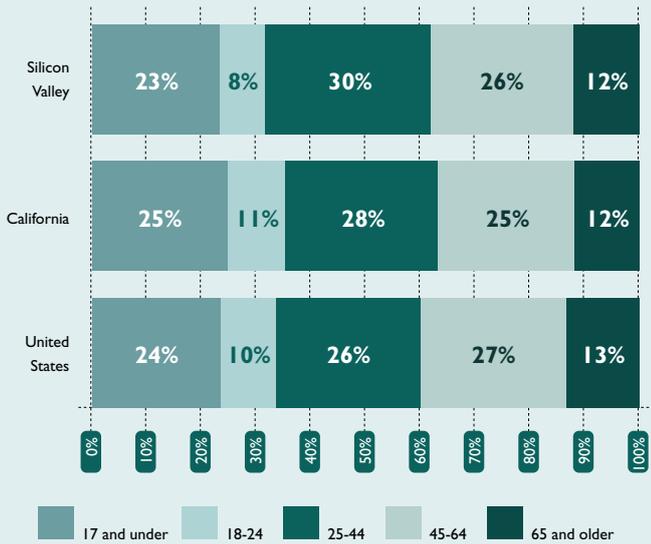


Net migration reaches  
**more than  
a decade high**

\* Provisional population estimates for 2012  
Data Source: California Department of Finance  
Analysis: Collaborative Economics

Age Distribution

Santa Clara & San Mateo Counties, California, and the U.S.  
2011

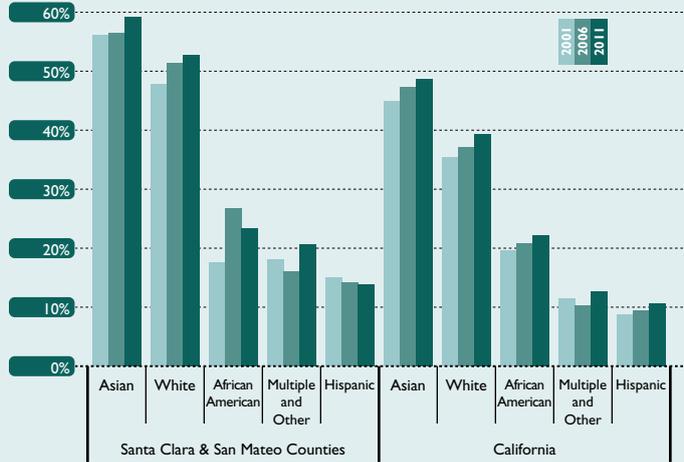


**Fifty-six percent** of Silicon Valley's population is **between the ages of 25 and 64**, the core working age groups

Data Source: U.S. Census Bureau, 2011 American Community Survey  
Analysis: Collaborative Economics

## Educational Attainment

Percentage of Adults with a Bachelor's Degree or Higher by Ethnicity  
Santa Clara & San Mateo Counties, and California



Educational attainment **varies** across ethnicities

Note: Categories African American, White and Asian are non-Hispanic  
Multiple and Other includes American Indian and Alaskan, Native Hawaiian and Pacific Islander, Two or More Races and Other Races  
Data Source: U.S. Census Bureau, American Community Survey  
Analysis: Collaborative Economics

Science and engineering degrees conferred **continue to grow** in the region and the nation

## Total Science & Engineering Degrees Conferred

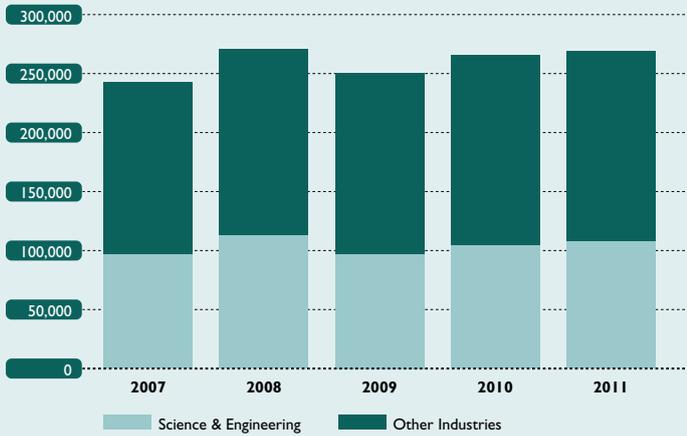
Universities in and Near Silicon Valley and the U.S.



Note: Data are based on first major and include bachelors, masters and doctorate degrees.  
Data Source: National Center for Educational Statistics, IPEDS  
Analysis: Collaborative Economics

### International Talent

Talent Foreign-Born, Employed Workers with a BA or Higher  
Santa Clara & San Mateo Counties

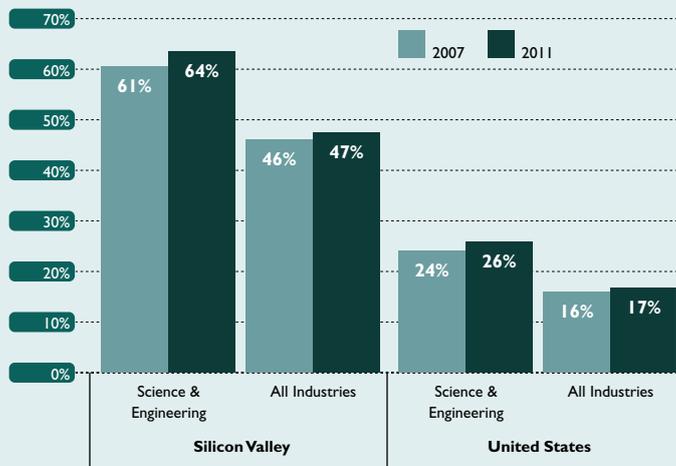


Silicon Valley continues to attract **highly-skilled** immigrants

Data Source: U.S. Census Bureau, American Community Survey PUMS  
Analysis: Collaborative Economics

### International Talent

Percent of Employed Population with a BA or Higher that is Foreign-born  
Santa Clara & San Mateo Counties, and U.S.



Data Source: U.S. Census Bureau, American Community Survey PUMS  
Analysis: Collaborative Economics

Foreign-born talent strongly influences Silicon Valley

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# Employment

*Silicon Valley's improving employment numbers outpace national and state recovery trends.*

# ECONO

## 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. While employment by industry provides the broader picture of the region's economy, observing the employment and unemployment rates of the population residing in the Valley reveals the status of the immediate Silicon Valley-based workforce. A large number of science and engineering jobs regionally indicates a local workforce equipped with strong skills that are valuable for generating new ideas and innovative products and services. The way in which the region's occupational patterns change shows how well our economy is maintaining its position in the global economy.<sup>2</sup>

## HOW ARE WE DOING?

Silicon Valley's residential employment (Santa Clara and San Mateo Counties) is increasing at a faster rate than the state and the nation. From December 2011 to December 2012, regional employment grew 3.6 percent compared to 1.7 percent in both the state and the nation. San Francisco slightly outpaced Silicon Valley's employment growth, reporting a 3.7 percent growth over the same time frame, adding over 15,900 jobs. Over the 12-month period, Silicon Valley added more than 42,360 jobs, bringing employment levels to 1.22 million overall. Unlike the state and the nation, the region's employment has surpassed pre-recession (December 2007) levels by 4.6 percent, while employment levels fell 1.9 in the state and 2.2 percent in the nation.

In the second quarter of 2012 the greater Silicon Valley (including Scotts Valley, Fremont, Newark, and Union City) registered a four percent increase in employment, the largest jump since Q2 2000.

Job growth cannot be attributed to any one industry; Silicon Valley made employment strides across all major areas of employment activity, except manufacturing and life sciences. From Q2 2011 to Q2 2012, Innovation & Specialized Services shot up seven percent and Community Infrastructure employment expanded three percent, adding nearly 26,000 new positions. The healthcare and social assistance sector has emerged as the third largest private industry sector in Santa Clara County, employing about ten percent of the county's workers and creating a notable economic impact.<sup>3</sup>

Unemployment rates in Santa Clara County improved across all race and ethnic backgrounds between 2010 and 2011, although ranging from 5.6 percent to ten percent. The region saw pronounced declines in the proportion of unemployed residents to the working age population in Other Races (-1.5%), Asian (-1.3%) and African American (-1.0%), though unemployment remained at least two percentage points above pre-recession levels. Unemployment rates in Silicon Valley similarly improved across all educational levels in 2011, except for residents with only a high school diploma. The unemployment rate for residents without a high school

diploma dropped the most, though rates remained high at 8.3 percent. Residents with a bachelor's degree or higher witnessed a 0.8 percent drop in their unemployment rate, at 5.1 percent.

In 2011, Silicon Valley employed 204,560 individuals in Science and Engineering (S&E) industries, a four percent increase from eleven years prior. Regional science and engineering employment is concentrated within Computer and Physical Engineering, comprising 85 percent of overall S&E employment. Nationally, S&E talent has grown ten percent since 2000, while talent is divided more evenly across industries.

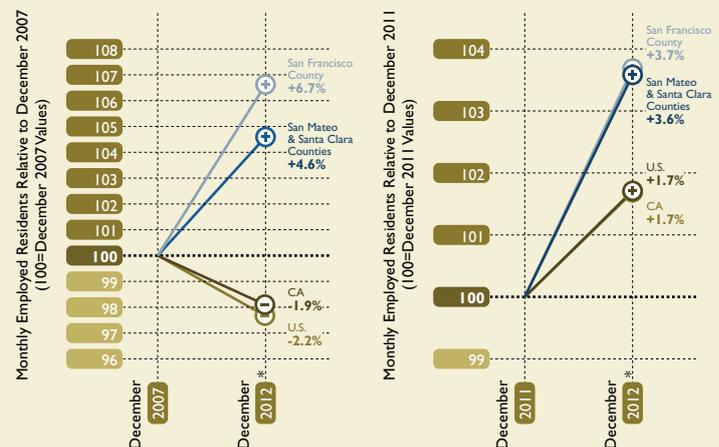
Unemployment rates continue to decline as the economy in Silicon Valley and the rest of the United States recovers from the recession. Unemployment rates have been trending downwards from an all time high in January 2010. Over the past year Silicon Valley's unemployment rate fell 1.2 percent to 7 percent in December 2012. The state reported a 1.2 percent drop, followed by the nation declining 0.7 percent. Despite these gains, full recovery is still a long way off; pre-recession unemployment rates in Silicon Valley were 4.3 percent.

According to a Brookings study, the San Jose metropolitan region's exports represented 18 percent of its total gross domestic product (GDP) in 2010, ranking it fourth out of the top 100 metro areas in the nation. Computer & Electronics exports constituted more than half (53.8%) of total exports, generating \$12.24 billion of wealth for the region.<sup>4</sup>

<sup>2</sup> Residential employment data are from the U.S. Bureau of Labor Statistics and are based on the two-county definition of Silicon Valley including Santa Clara and San Mateo Counties. Quarterly job growth data are from the California Employment Development Department, Labor Market Information Division and are based on the broader Silicon Valley definition including Santa Clara and San Mateo Counties, Scotts Valley, Fremont, Newark, and Union City.  
<sup>3</sup> Hospital Council of Northern & Central California. Economic Impact Analysis Santa Clara County Hospitals. 12 Jul. 2012.  
<sup>4</sup> Metropolitan Policy Program. Export Nation 2012: San Jose-Sunnyvale-Santa Clara.

### Change in Residential Employment

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



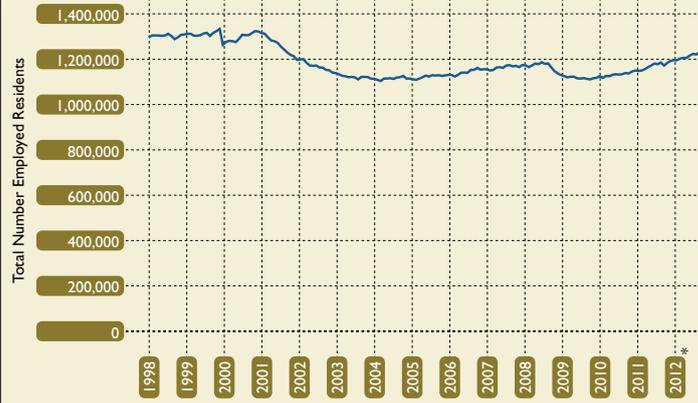
\*Data for December 2012 is preliminary  
 Note: Data is not seasonally adjusted.  
 Data Source: U.S. Bureau of Labor Statistics, Current Population Survey (CPS) and Local Area Unemployment Statistics (LAUS)  
 Analysis: Collaborative Economics

Regional employment has **surpassed** pre-recession levels

Monthly employment continues **upward climb**

## Employment

Total Employed Residents by Month  
San Mateo & Santa Clara Counties



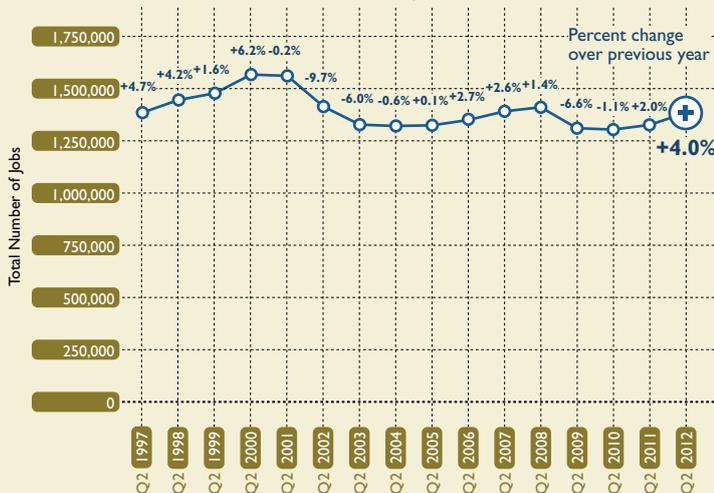
\*Data for December 2012 is preliminary  
Note: Data is not seasonally adjusted.  
Data Source: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS)  
Analysis: Collaborative Economics

## Silicon Valley Employment in Public Sector Major Areas of Economic Activity

	2007	Q2 2012	% Change
Local Government Administration	11,870	10,734	-10%
State Government Administration	79	33	-58%
<b>TOTAL EMPLOYMENT</b>	<b>11,949</b>	<b>10,767</b>	<b>-10%</b>

## Quarterly Job Growth

Number of Silicon Valley Jobs in Second Quarter with Percent Change over Prior Year  
Silicon Valley



Quarterly job growth reached **over a decade high**

Data Source: California Employment Development Department, Labor Market Information Division, Quarterly Census of Employment and Wages  
Analysis: Collaborative Economics

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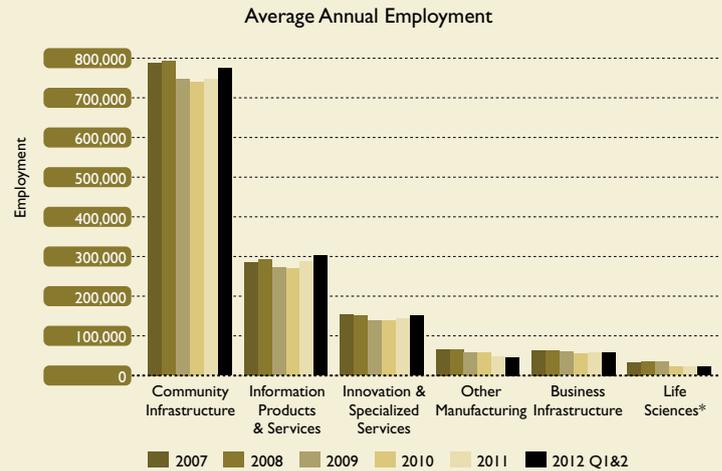
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Average annual employment posted gains across nearly all sectors

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

Major Areas of Economic Activity	Percent Change in Q2	
	2010-11	2011-12
Innovation & Specialized Services	+3%	+7%
Information Products & Services	+6%	+5%
Community Infrastructure	+1%	+3%
Other Manufacturing	-16%	-5%
Business Infrastructure	+2%	+4%
Life Sciences*	+1%	-0.03%
<b>TOTAL EMPLOYMENT</b>	<b>+2%</b>	<b>+4%</b>

## Silicon Valley Major Areas of Economic Activity



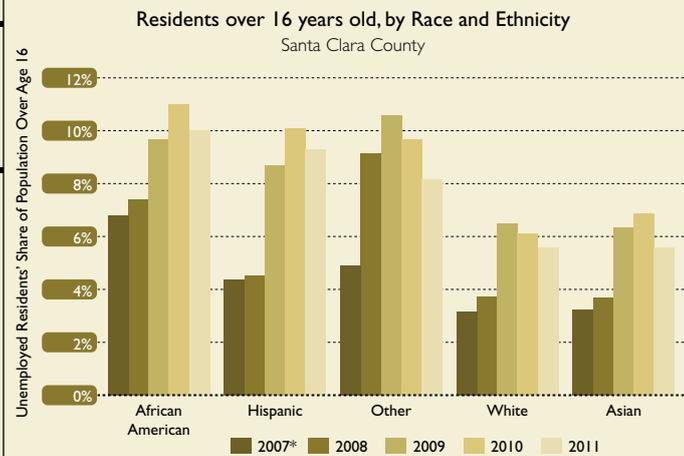
\*In 2010, employment in Pharmaceuticals was suppressed for confidentiality reasons, causing the significant drop in total Life Sciences employment.  
Data Source: California Employment Development Department, Labor Market Information Division, Quarterly Census of Employment and Wages  
Analysis: Collaborative Economics

Unemployment declining across all ethnicities

## Santa Clara County 2010-2011

African American	-1.0%
Hispanic	-0.8%
Other	-1.5%
White	-0.5%
Asian	-1.3%

## Unemployed Residents' Share of the Working Age Population

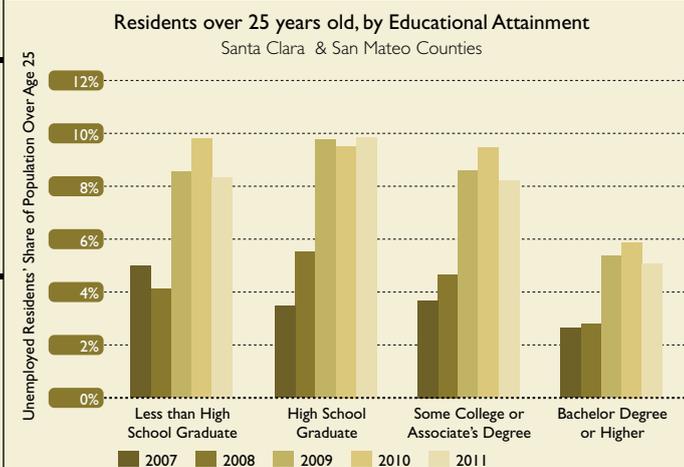


Note: Other includes the categories "Some Other Race" and "Two or More Races" in 2008-2011  
\*Date for Two or More Races is not available for 2007  
Data Source: U.S. Census Bureau; American Community Survey  
Analysis: Collaborative Economics

Unemployment rates range from eight to ten percent for Silicon Valley residents without a bachelor's degree

## Silicon Valley 2010-2011

Less than High School Graduate	-1.5%
High School Graduate	+0.3%
Some College or Associate's Degree	-1.2%
Bachelor's Degree or Higher	-0.8%



Data Source: U.S. Census Bureau, American Community Survey  
Analysis: Collaborative Economics

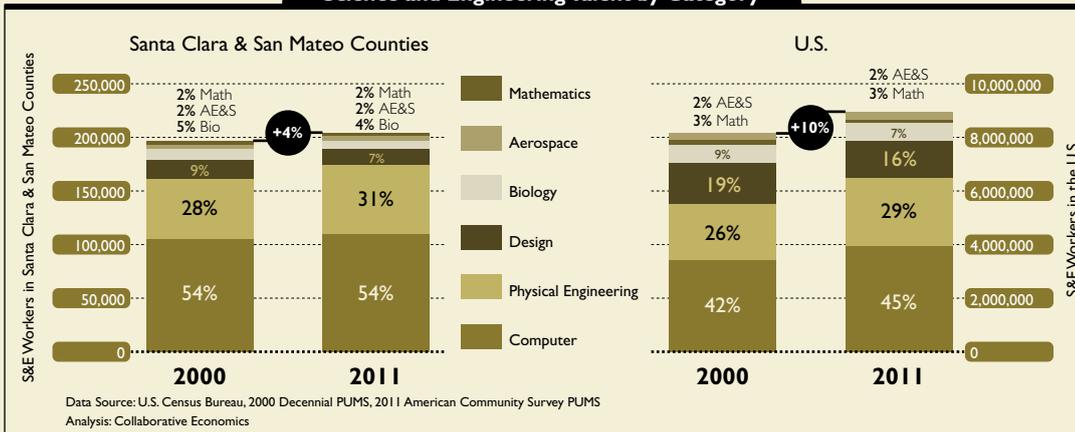
## Economic Impact of Hospitals

Santa Clara County 2010

Hospital Employment as a Percentage of Total Employment	10%
Employment Growth 2000-2010	25%
Full-Time Equivalent Jobs Supported	23,359
Average Annual Earnings of Workers	\$ 113,320

Data Source: ALH Urban & Regional Economics  
Note: Data are for 2010 operations and reflected in 2011 dollars

## Science and Engineering Talent by Category



Physical engineering and computer talent is driving growth in S&E employment

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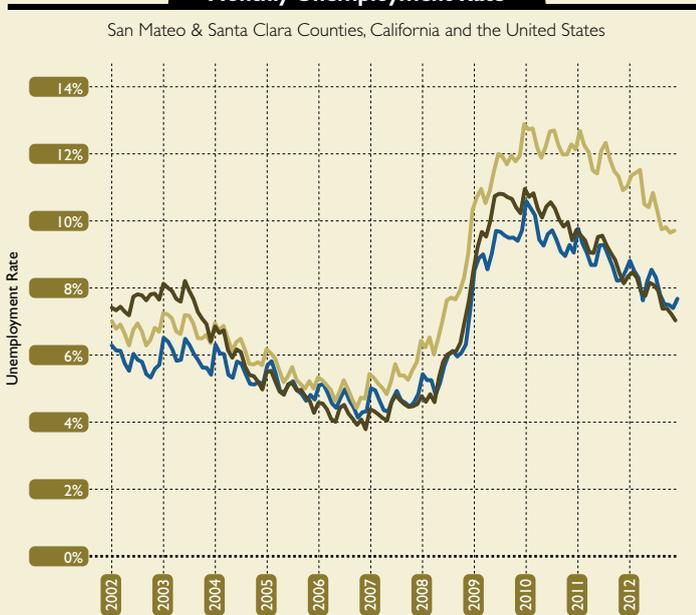
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## ECONOMY

## Monthly Unemployment Rate



Regional unemployment rate **dropped 1.2 percent** from December 2011 to December 2012

Data Source: U.S. Bureau of Labor Statistics, Current Population Survey (CPS) and Local Area Unemployment Statistics (LAUS)  
Analysis: Collaborative Economics

- United States
- California
- San Mateo & Santa Clara Counties

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Exports Share of Metro GDP 2010, San Jose MSA	<b>18%</b>
Rank, Largest 100 Metros	<b>4th</b>

**Top Export Industry by Dollar Value and Share of San Jose MSA Exports, 2010**

**Computers & Electronics**  
\$12.24 billion – 53.8%

Data and Analysis: Metropolitan Policy Program, Brookings

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# Innovation

*Labor productivity continues to rise but patent registrations remain relatively flat and venture capital investment has declined.*

# ECONO

## WHY IS THIS IMPORTANT?

Innovation is a driving force behind Silicon Valley's economy and a key source of regional competitive advantage. Innovation leads to the translation of ideas into novel products, processes and services that create and expand business opportunities. Innovative capacity hinges upon investment, the generation of new ideas, value-added across the economy and small business innovation funding. Patent registrations track the generation of new ideas and the ability to disseminate and commercialize these ideas. Additionally, tracking the areas of venture capital investment over time provides valuable insight into the region's longer-term direction of development.

## HOW ARE WE DOING?

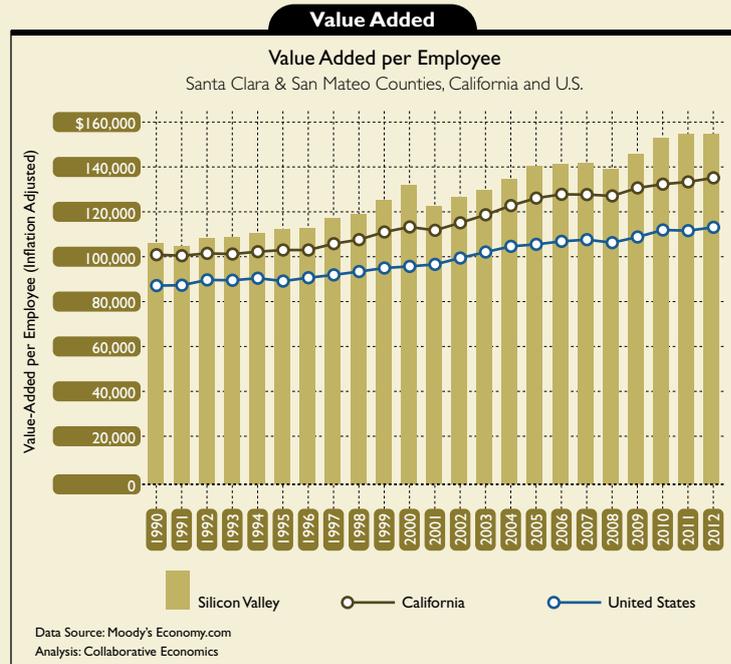
Labor productivity, or value added per employee, in Silicon Valley has grown every year since 2008, reaching the highest value reported of \$157,100 in 2012. Over the previous year, value added per employee in both the region and California increased 1.7 percent, while growing 0.9 percent across the nation. In the past decade, value added per employee grew at a faster rate in Silicon Valley (47%) compared to California (33%) and the United States (29%).

Silicon Valley represented 48 percent of the state's total patent registrations in 2011, a fall of 0.7 percentage points from the year prior. Despite declining as a percentage of California patents, Silicon Valley registered 1.5 percent more total patents in 2011, though California witnessed a three percent jump in patent registrations. Nationally, patent registrations grew just under one percent.

Regional patent registrations in 2011 numbered 13,520, nearly 200 more patents than 2010. Consistent with past years, Computers, Data Processing & Information Storage comprised the largest portion of patents in Silicon Valley, representing 39 percent of the region's total patents. Health experienced the largest gain of patent registrations over the last year, adding 220 registrations to reach a total of 1,130 patents. Measuring, Testing & Precision Instruments saw the biggest drop with 95 fewer patents, or ten percent less than in 2010.

After rebounding from the recession, venture capital (VC) investment in Silicon Valley decreased for the first time since 2009, down to \$6.5 billion. This represented a 17 percent decline from 2011 levels, with a significant drop in VC investment in the third and fourth quarters of 2012. However, San Francisco investment increased 22 percent in 2012 to \$3.4 billion. Taken together, these two regions accounted for 37 percent of the nation's total investment and 70 percent of California's investment. By industry, Software continues to attract the largest share of total investment (38%), and was one of only five industries to see an increase in investment between 2011 and 2012.

Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) awards are highly competitive federal grant programs. These grants are reserved for applicant teams led by for-profit companies with fewer than 500 employees. Silicon Valley's small businesses were awarded 184 grants in 2011 through the SBIR and STTR programs, 28 percent less than in 2010. While the number of awards decreased, Silicon Valley garnered nearly \$91 million from these grants suggesting that higher number of smaller awards were issued. This marked a 30 percent improvement over 2010 award levels and a 67 percent increase from 1990.



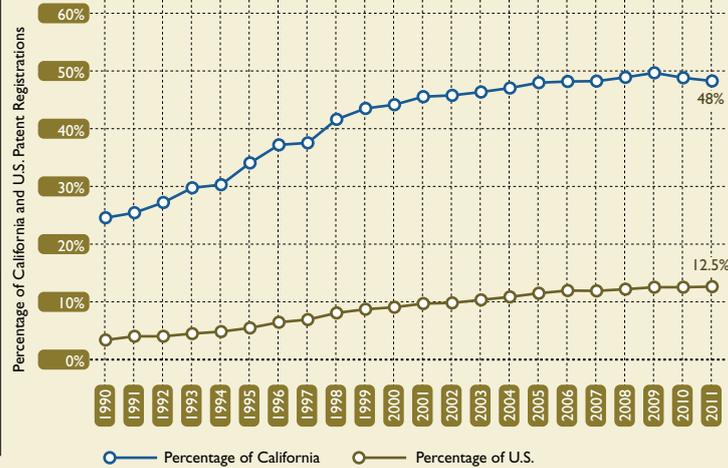
### Percent Change in Value Added per Employee

	2011-2012
Silicon Valley	+1.7%
California	+1.7%
United States	+0.9%

### Value added per employee marches up

## Patent Registrations

### Silicon Valley's Percentage of U.S. and California Patents

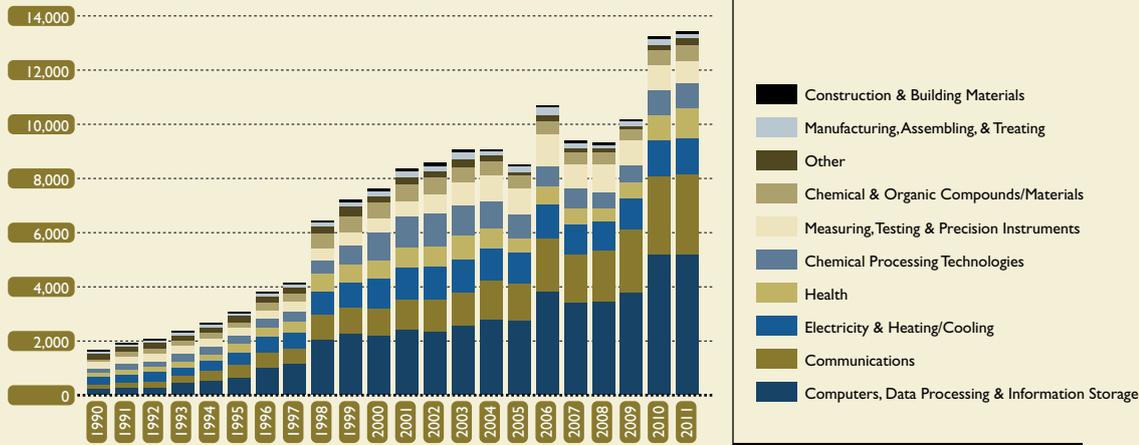


Data Source: U.S. Patent and Trademark Office  
Analysis: Collaborative Economics

Despite an increase in patent registrations, Silicon Valley's share of California's patents has fallen recently

## Patent Registrations

### By Technology Area Silicon Valley



Data Source: U.S. Patent and Trademark Office  
Analysis: Collaborative Economics

Patent registration improve slightly over 2010 levels and are concentrated in Computers, Data Processing & Information Storage

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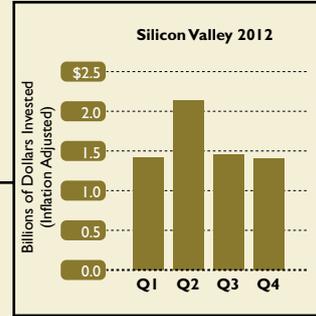
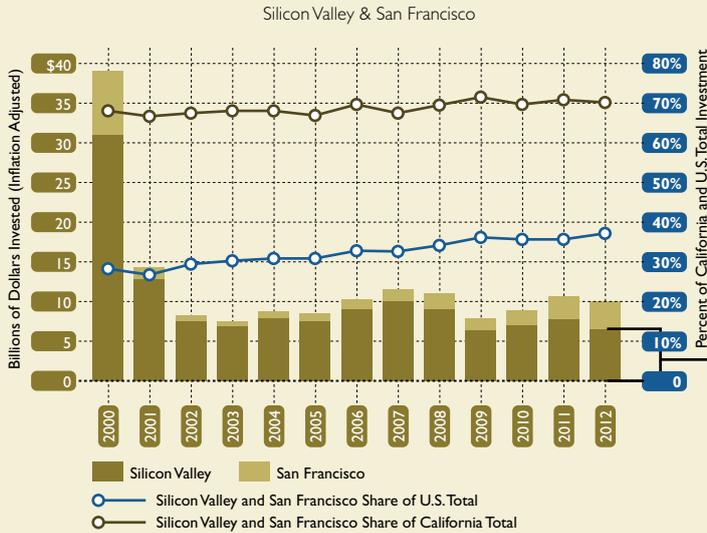
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## Venture Capital Investment

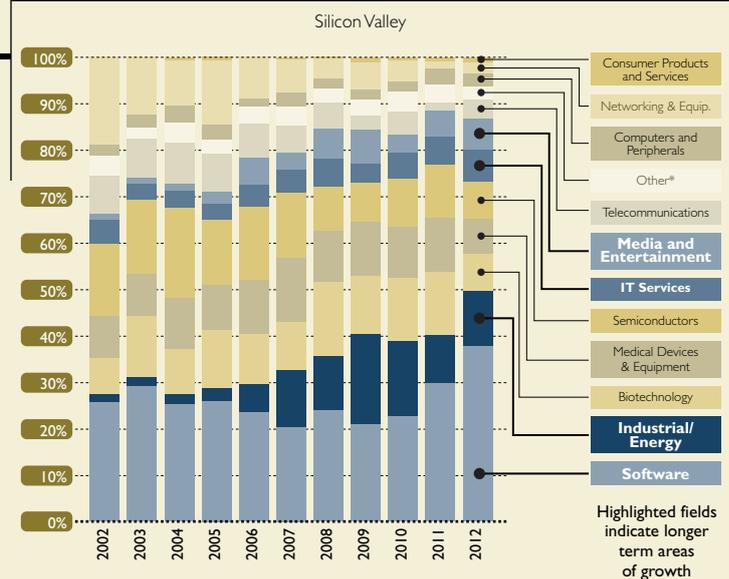


Data Source: PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ Report, Data: Thomson Reuters  
Analysis: Collaborative Economics

**Silicon Valley** venture capital investment **declined** following a period of recovery, while **San Francisco** investment **expanded**

Software represents **38 percent** of total venture capital investment

## Venture Capital by Industry

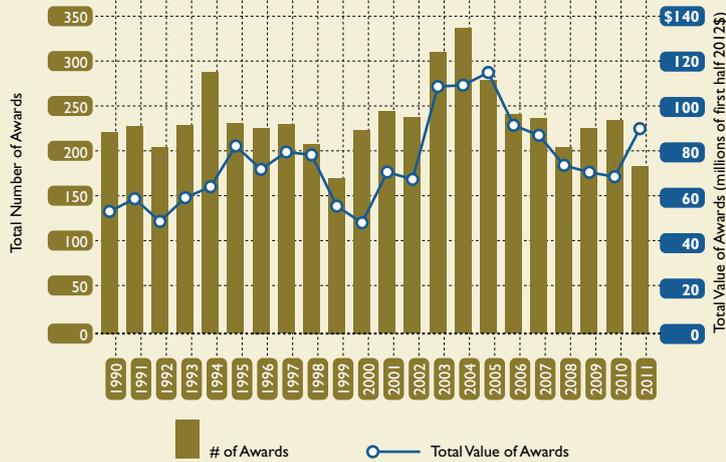


\*Other includes Healthcare Services, Electronics/Instrumentation, Financial Services, Business Products & Services, Other, and Retailing/Distribution

Data Source: PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ Report, Data: Thomson Reuters  
Analysis: Collaborative Economics

## Small Business Innovation and Technology Awards

Total Number and Value of Awards Granted to Small Businesses  
Silicon Valley



Note: Data includes both Small Business Innovation Research Awards (SBIR) and Small Business Technology Transfer Awards  
Data Source: U.S. Small Business Administration, Office of Technology  
Analysis: Collaborative Economics

Small business innovation and technology award **funding is up** as award numbers drop

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# Entrepreneurship

*Angel investment, small business loans and IPOs have all increased, although entrepreneurship has been constrained by limited access to financing.*

# ECONO

## WHY IS THIS IMPORTANT?

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.

The activity of mergers and acquisitions (M&As) and initial public offerings (IPOs) indicate that a region is cultivating innovative and potentially high-value companies. Angel investments are vital for startups and small business financing is necessary for both new and established businesses wanting to grow. Growth in firms without employees indicates that more people are going into business for themselves. The movement of businesses to and from Silicon Valley provides some insight into the continued attractiveness of the region.

## HOW ARE WE DOING?

The percent of the population starting a business has dropped slightly in Silicon Valley since the early 2000s, while growing in California, other parts of the San Francisco Bay Area and the U.S. as a whole. However, since this is a measure by place of residence, the geographic distribution does not indicate necessarily where the business is located.

The total number of U.S. IPO pricings edged up from 2011 levels, and the distribution has shifted. Silicon Valley reached a five-year high of 17 pricings in 2012, representing 52 percent of IPOs statewide and 15 percent nationally. The number of U.S. pricings from global companies has been cut in half, while gains have been seen in IPOs throughout the rest of the state and nationally.

Between Q3 2011 and Q3 2012, the number of M&As decreased in both the region and the state. M&As dropped by eight percent in Silicon Valley and eleven percent in the state, boosting Silicon Valley's share of all California M&A deals. In 2012, Silicon Valley accounted for 54 percent of all California M&A deals, and 11 percent of all U.S. deals.

Disclosed angel investment has expanded in the region in recent years, totaling more than \$34 million in Silicon Valley and more than \$21 million in San Francisco in Q3 2012. Silicon Valley angel investment has increased dramatically, rising 90 percent in the past year alone. Silicon Valley and San Francisco together capture nearly half (45%) of the total angel investment in the state, though this share has decreased in recent years given the increase in total California angel investment, which has more than quadrupled since 2007.

Following a year of decline, Silicon Valley reported robust establishment growth in the last observable period (January 2010-11). The region added a total of 46,400 new establishments, up 146 percent over the prior year. Business closings declined 72 percent over the same period.

The number of businesses without employees continues to grow in the region (relative rates up ten percent), albeit at a slower rate than California (+12%) and the U.S. (+13%). This suggests that a greater number of entrepreneurs are starting businesses without employees. Most nonemployer firms are self-employed individuals whose businesses are not necessarily their primary source of income. Therefore, firms without employees create notably less economic impact than businesses with employees.<sup>5</sup> Twenty-six percent of the region's nonemployer firms were in the Professional, Scientific, & Technical Services sector in 2010. Nationally, this sector encompasses only 14 percent of firms without employees and 18 percent statewide, suggesting that Silicon Valley is specialized in the sector.

Access to small business loans has improved. Following a precipitous drop in 2009 that continued into 2010, the number and total value of small business loans increased in 2011. Small business loans in Silicon Valley rebounded 16 percent in 2011 compared to 2010, totaling 68,975 loans. Over the same year, total loan values jumped five percent in the region and seven percent in the nation as a whole. Since 1996, the number of small business loans has increased 237 percent in the region and total value has grown from \$1.88 to \$2.01 billion.

<sup>5</sup> Shane, Scott. *Non-employer Firms Continue to Shrink*. Forbes. 26 Apr. 2012.

### Percent of Population Starting a Business

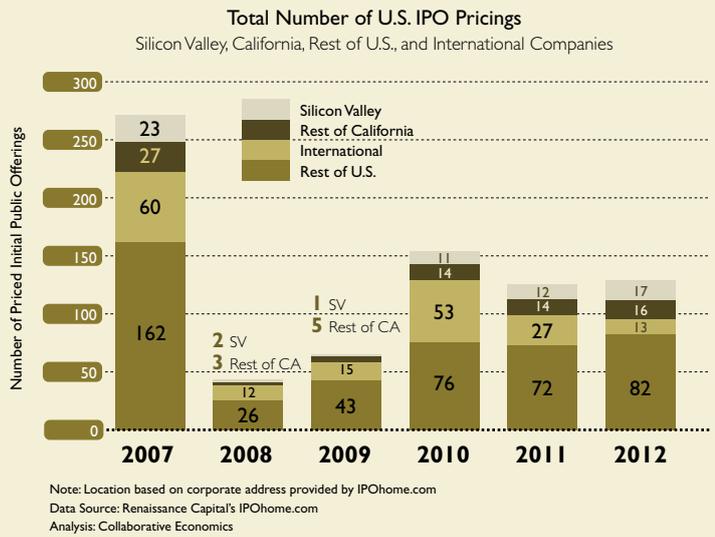
#### Rates by Geographic Area



Data Source: Kauffman Index; U.S. Census Bureau, Current Population Survey  
Analysis: Robert W. Fairlie, University of California, Santa Cruz

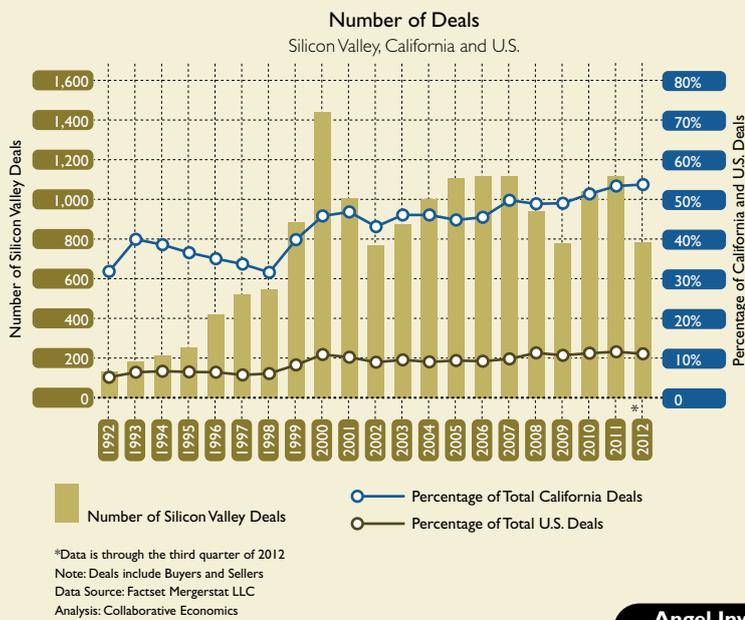
Rates of entrepreneurship **have dipped slightly in Silicon Valley**, while growing in other parts of California and the U.S.

## Initial Public Offerings



U.S. IPO pricings **up across the nation**, though with fewer international companies

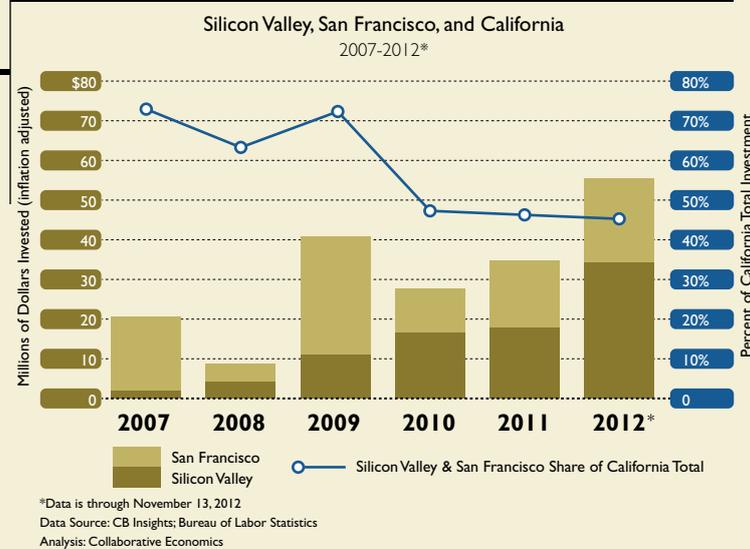
## Mergers & Acquisitions



Mergers and acquisitions **fell in the region**, while accounting for a **larger portion** of total state deals

## Angel Investment

Angel investment **rose by 90 percent** in Silicon Valley in 2012



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Firm openings outnumber firm closings nearly four to one

### Establishment Churn

Santa Clara & San Mateo Counties



Data Source: National Establishment Time Series Database (NETS)  
Analysis: Collaborative Economics

Firms Moving In Firm Openings  
Firms Closing Firms Moving Out  
Net Establishment Churn (Gain - Loss)

Nonemployer growth rate up in Silicon Valley, while trailing the state and nation

### Relative Growth of Firms Without Employees

Santa Clara & San Mateo Counties, California and the U.S.



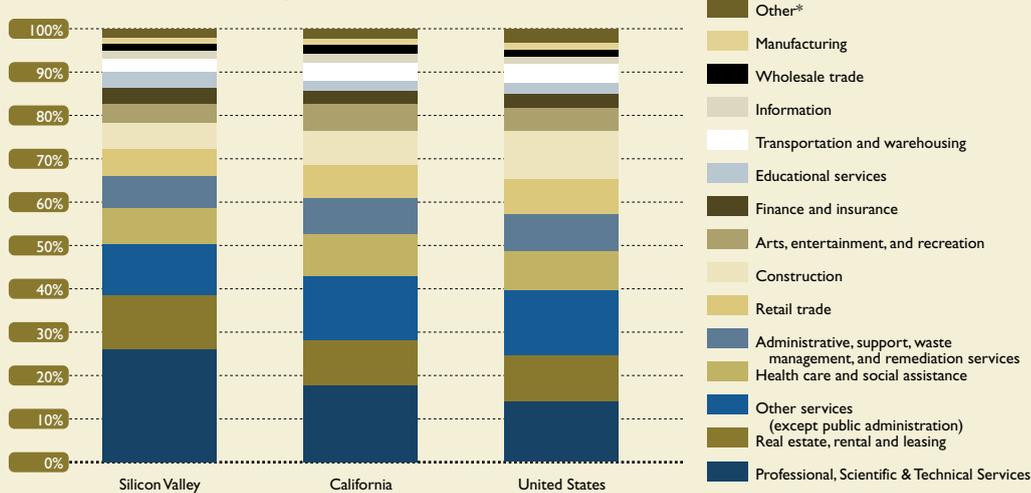
Data Source: U.S. Census Bureau, Nonemployer Statistics  
Analysis: Collaborative Economics

### Firms Without Employees in 2010

Silicon Valley	183,632
California	2,814,409
United States	22,110,628

## Percentage of Nonemployers by Industry, 2010

Silicon Valley, California, and the U.S.

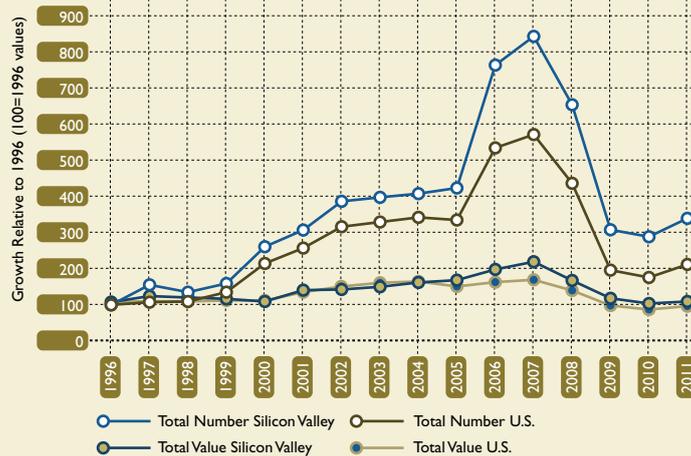


\*Other includes Accommodation & Food Services; Mining, Quarrying and Oil & Gas Extraction; Agriculture, Forestry, Fishing & Hunting, and utilities  
 Data Source: U.S. Census Bureau, Nonemployer Statistics  
 Analysis: Collaborative Economics

The majority of Silicon Valley nonemployer firms are in **Professional, Scientific, & Technical Services**

## Relative Growth of Small Business Loans

Santa Clara & San Mateo Counties, and U.S.



Data Source: Federal Financial Institutions Examination Council (FFIEC)  
 Analysis: Collaborative Economics

Small business loan total value and number **rebound** after three years of decline

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# Commercial Space

Commercial real estate markets continue to rebound in Santa Clara County as rents rise, vacancies decline and supply tightens.

## WHY IS THIS IMPORTANT?

Tracking the supply of commercial space, vacancy rates and asking rents (i.e., the rent listed for new space) provides 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.

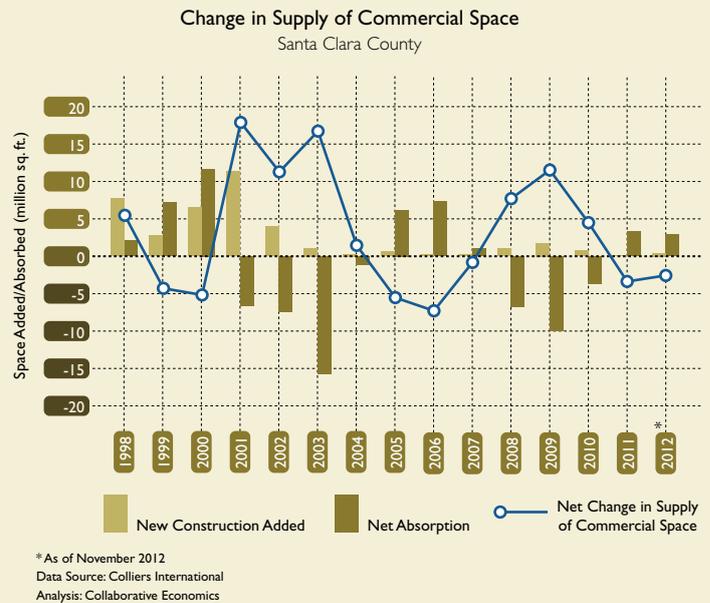
## HOW ARE WE DOING?

Commercial space became slightly more available in 2012 than in 2011 in Santa Clara County, though supply of commercial space continued to decrease overall. Net absorption for all commercial buildings remained strongly positive in 2012, though it fell seven percent from the prior year, suggesting continued demand for commercial leases at more modest levels. New office space construction helped to offset high absorption rates, slightly increasing supply. Vacancy rates continued to decline in 2012 in Santa Clara County overall, though at a slower rate than in 2011 (1.6 percent versus 2.3 percent, respectively). Vacancy in warehouse properties was the only category to increase, though it only rose by 1.1 percent. In contrast, San Mateo County's commercial vacancies increased, though by less than one percent for all commercial properties.

Annual asking rents for commercial space ticked up across the board in 2012 from the prior year in both Santa Clara and San Mateo Counties, led by increases in office space rental costs. For the counties combined, office space rents increased nine percent, R&D space increased four percent and Industrial/Warehouse space increased seven percent. In Santa Clara County, office buildings continue to drive construction activity in commercial buildings, increasing by 359,400 square feet this year after zero square footage added in any one sector last year. Since 2009, all new commercial space has been attributed to the office sector.

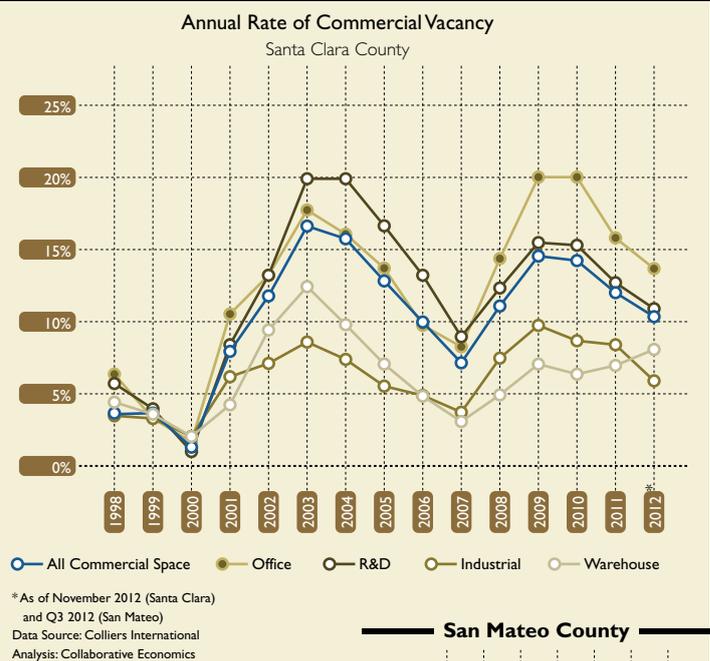
# ECONO

### Commercial Space



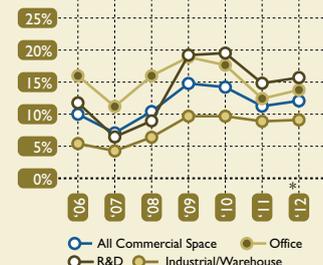
Commercial space availability **increased slightly** in 2012

### Commercial Vacancy



Santa Clara County vacancy rates in commercial space **overall continue to fall**, while edging up in San Mateo County

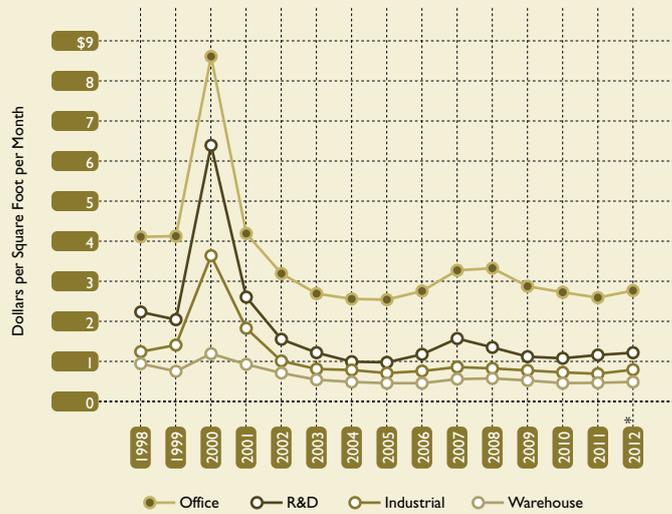
### San Mateo County



Commercial rents **increased across the board** in both Santa Clara and San Mateo Counties

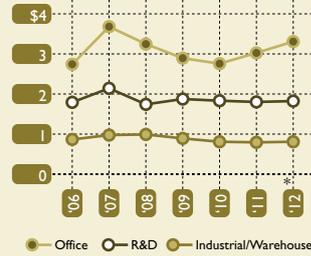
## Commercial Rents

Annual Average Asking Rents  
Santa Clara County



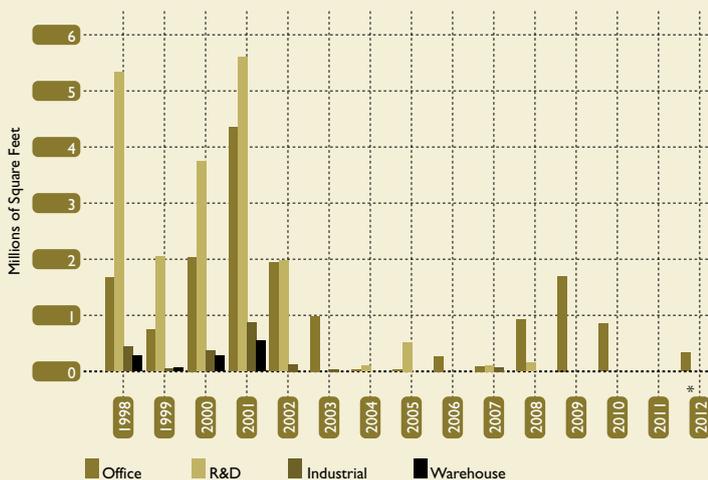
\*As of November 2012 (Santa Clara) and Q3 2012 (San Mateo)  
Data Source: Colliers International, Bureau of Labor Statistics  
Analysis: Collaborative Economics

## San Mateo County



## New Commercial Development

By Sector  
Santa Clara County



\*As of November 2012  
Data Source: Colliers International  
Analysis: Collaborative Economics

Office space **continues to dominate** new commercial development

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# Income

*Per capita income approaches pre-recession levels, while other income indicators are bleak.*

# ECONO

## WHY IS THIS IMPORTANT?

Earnings growth is as important a measure of Silicon Valley's economic vitality as job growth. Considering a variety of income measures together provides an indication 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 median income by educational attainment and ethnicity reveals the complexity of our income gap. Tracking trends in food stamp participation and the percentage of students receiving free meals provides an additional indication of economic stress in the region.

## HOW ARE WE DOING?

Income growth in Silicon Valley is uneven, and the gap between the high and low income earners is increasing. Average real per capita income has steadily climbed, inching up 2.2 percent from 2011 levels, to reach \$67,420. This income level positions it near pre-recession levels (\$70,700 in 2007). Since hitting a low in 2009, real per capita income has rebounded ten percent in the region, compared to four percent in California and three percent in the United States.

Between 2009 and 2011 the gap in per capita income widened between the highest and lowest earning racial and ethnic groups in Silicon Valley. Per capita income levels increased across White, Multiple & Other, and Asian categories, growing by four, three, and one percent respectively over two years prior, while income losses were reported across African Americans and Hispanics, dropping 18, and five percent, respectively. State and nationwide per capita income fell across all racial and ethnic groups from 2009 to 2011, though Silicon Valley saw a more pronounced or equivalent decline for some minority groups when compared to California overall.

Median household income fell for the third consecutive year in Silicon Valley and the fourth year in a row statewide and nationally. The region's median household income dropped to an 11-year low of \$84,724, though remaining 45 percent above state levels. Between 2010 and 2011 the region and the state fell 3.8 percent, followed by the U.S. (-2.2%).

The share of households in Silicon Valley earning over \$100,000 fell one percentage point to 43 percent in 2011, while the share of households earning less than \$35,000 rose two percentage points to 20 percent over the same period, suggesting a narrowing of the middle income category. The proportion of higher income houses exceeds state (27%) and national rates (21%). Silicon Valley's increase in share in the highest earning category amid the 2008 recession resulted in part from an increase in the number of earners per household compared to prior years; the number of households with three or more earners rose ten

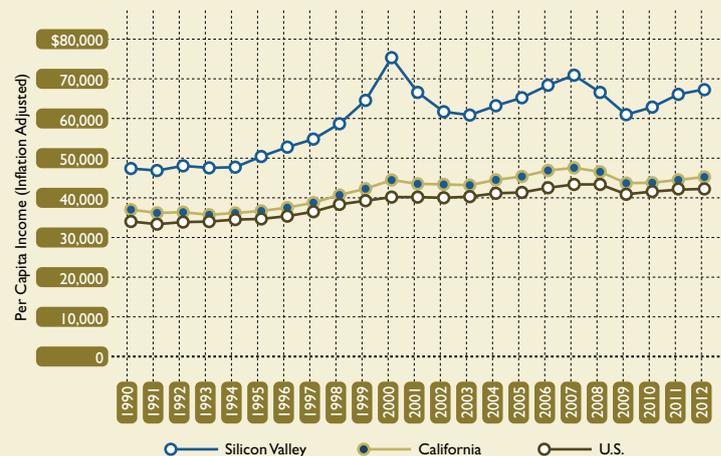
percent between 2007 and 2008 and growth in other household sizes, as the share of additional household members (children, other relatives and non relatives) grew to 47 percent of total household members in 2008. The share of additional household members remained steady in 2011.

Since 2007, median income relative to educational attainment has declined across the board. Silicon Valley residents with only a high school diploma experienced the largest drop, at 14 percent. A more severe loss in median income was reported for high school graduates statewide (-15%), while faring better nationally (-8%). Since 2009, Silicon Valley professionals with a graduate or professional degree were the only cohort to see an improvement in median income, rising roughly three percent from 2009 to 2011, while falling two percent since 2007.

Food stamp participation in the region is expanding, though it still remains less than half of the statewide average. In 2012, 10.5 percent of Californians benefited from the food stamp program, compared to five percent of the population in Silicon Valley. Since 2008, the percentage of Silicon Valley food stamp program participants has increased roughly two percent, while statewide participation grew 4.4 percent. Nationwide food stamp participation has grown exponentially since 2000, with an additional nine percent of the population participating in the program. The percentage of the population in the region receiving food stamp benefits reached 14.8 percent in 2012, compared to only two percent in 1970 and roughly six percent in 2000.

### Real per Capita Income

Santa Clara & San Mateo Counties, California and U.S.

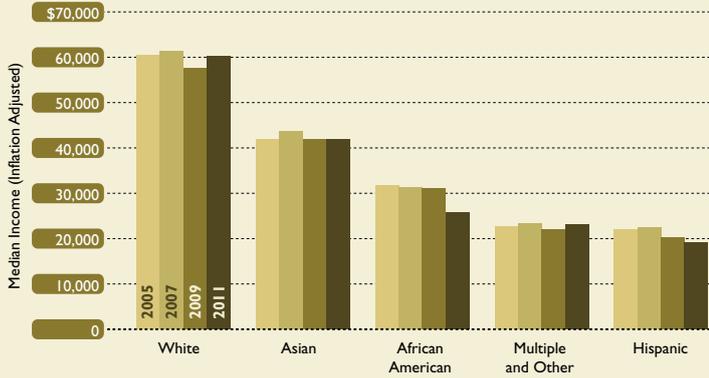


Note: Personal income is defined as the sum of wage and salary disbursements (including stock options), supplements to wages and salaries, proprietors' income, dividends, interest, and rent, and personal current transfer receipts, less contributions for government social insurance  
Data Source: Moody's Economy.com  
Analysis: Collaborative Economics

Silicon Valley's real per capita income **nears pre-recession levels**

## Per Capita Income by Race & Ethnicity

Santa Clara & San Mateo Counties



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 or royalty income from estates and trusts; Social Security or railroad retirement income, Supplemental Security income, welfare payments, retirement, survivor or disability pensions; and all other income  
 Data Source: US Census Bureau, American Community Survey  
 Analysis: Collaborative Economics

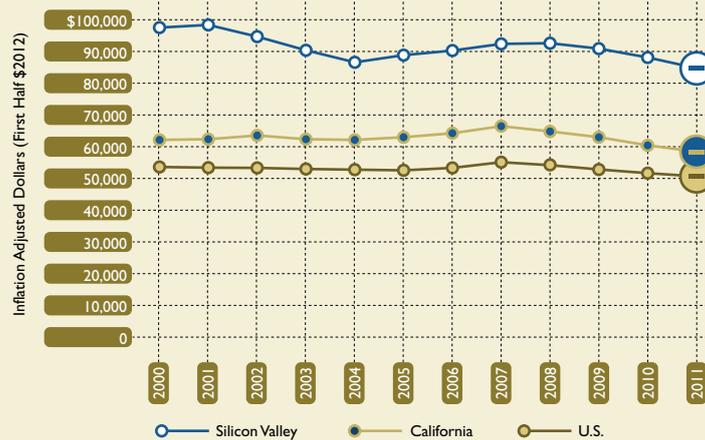
Per capita income increased across all groups, **except African American and Hispanic**

## Percent Change in Per Capita Income – 2009-2011

	Silicon Valley	California	United States
White, non-Hispanic	+4%	-2%	-2%
Asian, non-Hispanic	+1%	-5%	-4%
African American, non-Hispanic	-18%	-6%	-4%
Multiple & Other	+3%	-4%	-11%
Hispanic	-5%	-5%	-4%

## Median Household Income

Santa Clara & San Mateo Counties, California and the U.S.



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: U.S. Census Bureau, American Community Survey  
 Analysis: Collaborative Economics

Median household income falls in each region

## Percent Change in Median Household Income 2010-11

- Silicon Valley -3.8%
- California -3.8%
- United States -2.2%

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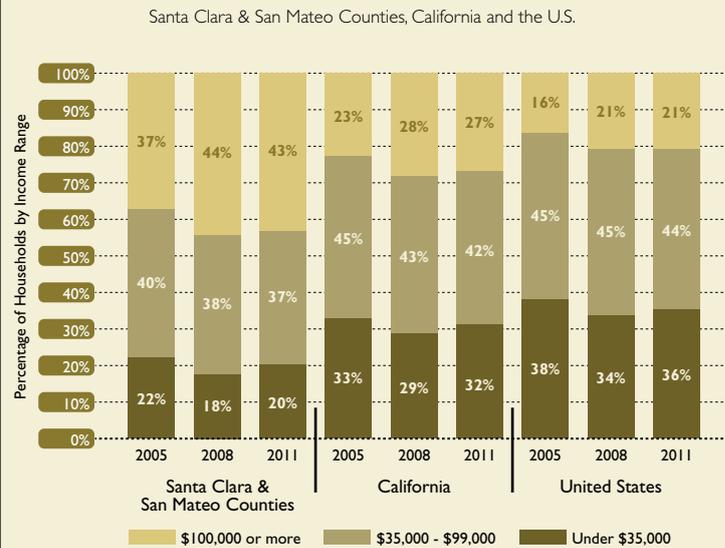
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Since 2008, the share of middle income households **has declined**, while the proportion of additional household members **holds steady**

## Household Dynamics

	2005	2008	2011
<b>Core Household Members</b>	<b>57%</b>	<b>53%</b>	<b>53%</b>
Householder	37%	35%	35%
Spouse	20%	18%	19%
<b>Additional Household Members</b>	<b>43%</b>	<b>47%</b>	<b>47%</b>
Children	30%	31%	31%
Other Relatives	7%	10%	9%
Non Relatives	5%	6%	7%

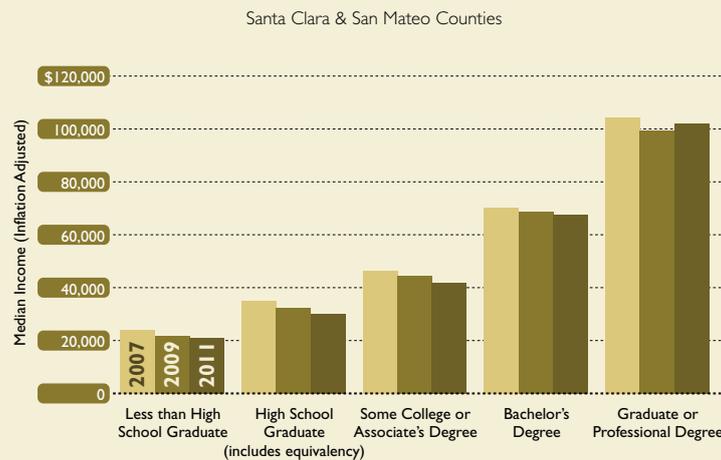
## Distribution of Households by Income Ranges



Note: Income ranges reflect 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: U.S. Census Bureau, American Community Survey  
Analysis: Collaborative Economics

## 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

Data Source: U.S. Census Bureau, American Community Survey  
Analysis: Collaborative Economics

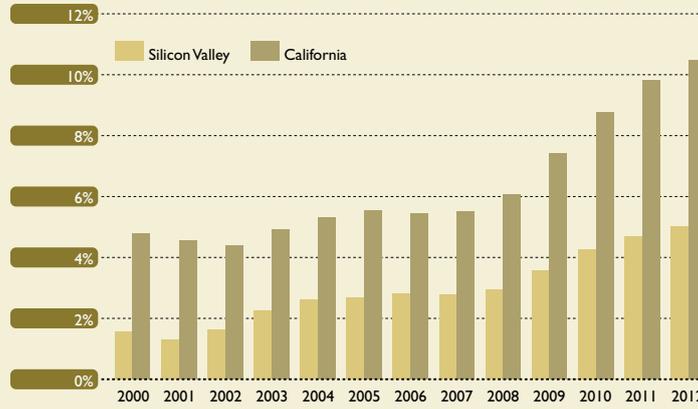
Median income dropped across all educational groups **except Graduate or Professional Degree**

## Percent Change in Median Income by Educational Attainment – 2007-2011

	Silicon Valley	California	United States
Less than High School	-13%	-12%	-11%
High School Graduate	-14%	-15%	-8%
Some College	-10%	-12%	-9%
Bachelor's Degree	-3%	-7%	-5%
Graduate or Professional Degree	-2%	-2%	-3%

## Food Stamps

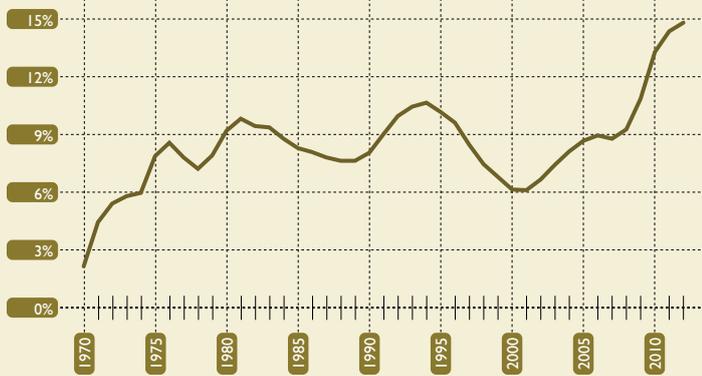
Food Stamp Participants as a Percent of Resident Population  
Santa Clara & San Mateo Counties and California



Data Source: California Department of Finance, California Department of Social Services  
Analysis: Collaborative Economics

Food stamp participation **climbs steadily** in region and state

## Food Stamp Participants as a Percent of U.S. Population



Data Source: U.S. Department of Agriculture; U.S. Census Bureau  
Analysis: Collaborative Economics

National food stamp participation is **on the rise**

### Food Stamp Participation as Percent of U.S. Population

1970	2012	Growth 1970-2012
2%	15%	+13%

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*Silicon Valley continues to outpace the state in student achievement, while signs of decreasing student preparedness are evident.*

### WHY IS THIS IMPORTANT?

The future success of Silicon Valley's knowledge-based economy depends on younger generations being prepared for and having access to higher education.

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 algebra, 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. Disconnected youth, young people who are neither in school nor working, are at greatest risk for being unemployed in the long term. Access to higher education is determined in part by the cost of tuition at colleges and universities as well as the proportion of incoming students that receive financial aid.

### HOW ARE WE DOING?

Overall, Silicon Valley students are more likely to graduate and meet UC/CSU requirements than the average student in California. During the 2010-11 school year, 47 percent of Silicon Valley students met the UC/CSU requirements compared with 40 percent in the state as a whole. This reflects a two percent drop regionally since 2008-09 and a five percent gain statewide over the same time period. The dropout rate in both the region and the state rose three percent over the last year, with 14 percent of students dropping out in Silicon Valley, and 16 percent in California overall.

There is significant variation in academic achievement among Silicon Valley students. While the overall graduation rate was 87 percent in the 2010-11 school year, only 76 percent of Hispanic students graduated from high school in the region. Asians had the highest graduation rate in 2010-11 at 96 percent, followed by Whites (93%) and Filipinos (91%). With respect to college eligibility, the share of students meeting UC/CSU requirements varied greatly by ethnicity, with a nearly 50 percentage point difference between the highest rates (Asians) and lowest rates (African Americans and Hispanics). African Americans had one of the greatest increases in graduation rates (+3%) from 2009-11, but experienced the largest drop (-4%) in the share of graduates meeting UC/CSU requirements. Meeting UC/CSU requirement rates fell for the bottom three ranked groups (Pacific Islanders, Hispanics, African Americans) in addition to Whites, while all other groups witnessed growth.

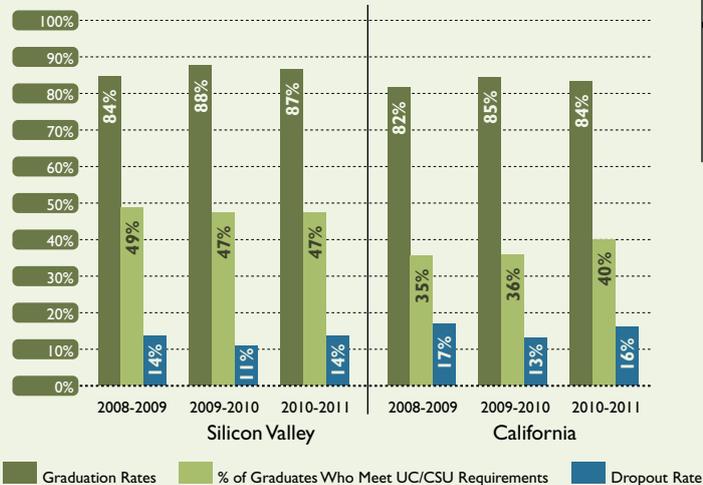
Starting in 2011 all students enrolled in Algebra in California were required to take the California Standards Test (CST) in the subject. The share of Silicon Valley eighth graders with advanced or proficient scores in Algebra I fell 1.3 percent in 2012 to 26 percent and 30 percent respectively. This marks the first year since 2007 that fewer advanced scores have been awarded to students. The proportion of students scoring at or below basic increased, with a quarter of eighth graders scoring below basic or far below basic.

Rates of student borrowing and financial aid at Silicon Valley colleges and universities increased slightly during the 2009-10 school year, but remained well below California and national levels. During the 2009-10 school year, 29 percent of Silicon Valley college freshmen took out student loans, far less than both the state (44%) and the nation (54%). The percentage of Silicon Valley college freshmen receiving any form of financial aid rose to 64 percent, while state and national rates declined. Silicon Valley college freshmen who took out loans borrowed an average of roughly \$6,900 to pay for the costs of college, a 17 percent increase from the 2008-09 school year. The increase in the average amount of student loans borrowed parallels the rise in average undergraduate in-state tuition in the region, which jumped 16 percent to over \$18,000 in the 2009-10 school year.

Silicon Valley has a significantly lower proportion of disconnected youth – youth between the ages of 16 and 19 who are neither in school nor working – as compared to the state overall. While rates of disconnection in the state have been rising, Silicon Valley has seen a decline since 2009. In 2011, disconnected youth levels reached 8.7 percent in the state, nearly double Silicon Valley levels (4.7%).

## High School Graduation and Dropout Rate

Rate of Graduation, Share of Graduates Who Meet UC/CSU Requirements and Dropout Rate  
Silicon Valley and California, 2008-2011



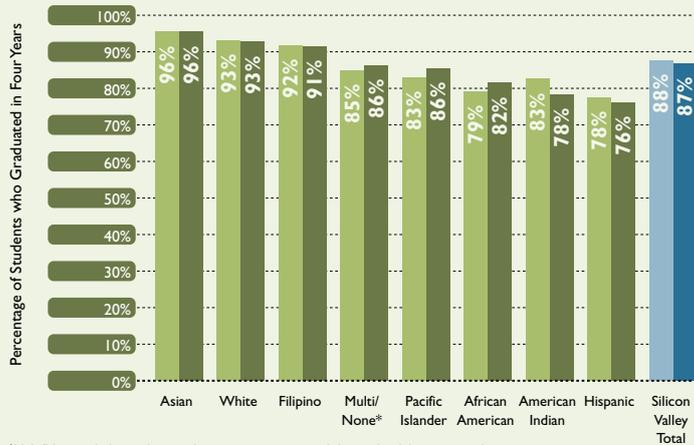
Note: Dropout Rate is 4 year derived rate  
Data Source: California Department of Education  
Analysis: Collaborative Economics

Silicon Valley **graduation rates fell slightly, and the dropout rate expanded**

## High School Graduation Rates

### By Ethnicity

Silicon Valley, 2009/10 & 2010/11



\*Multi/None includes students with two or more races and those who did not report their race  
Data Source: California Department of Education  
Analysis: Collaborative Economics

Graduation rates vary by ethnicity, with Asian, White and Filipino students **above the regional average**

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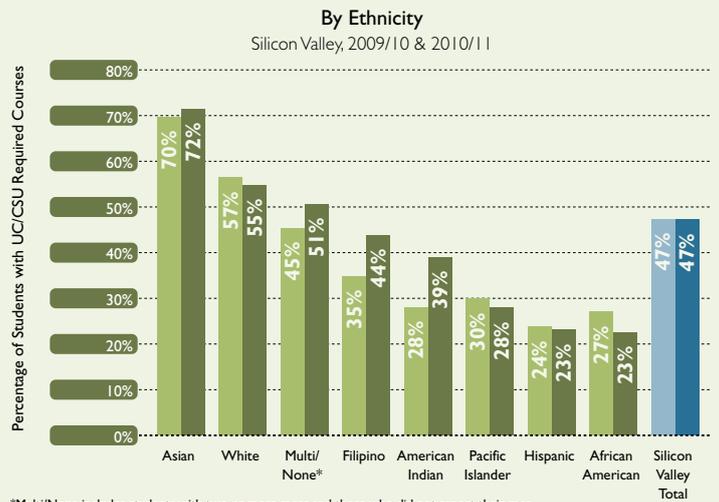
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## Share of Graduates Who Meet UC/CSU Requirements

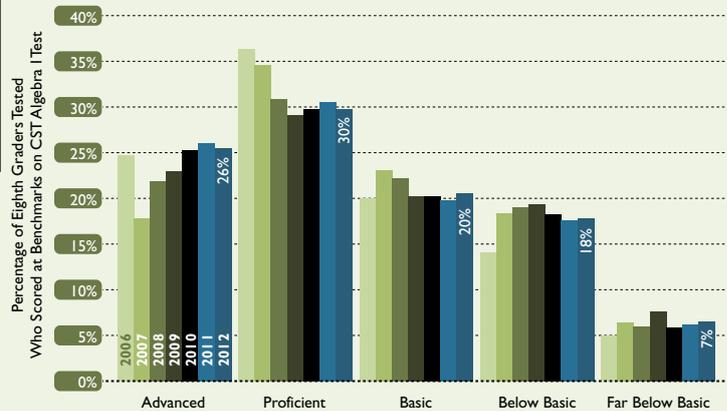


There is nearly a **50 percent disparity** between the share of graduates in the highest (Asian) and the lowest (African American and Hispanic) groups who meet UC/CSU requirements

\*Multi/None includes students with two or more races and those who did not report their race  
Data Source: California Department of Education  
Analysis: Collaborative Economics

## Algebra I Scores

Percentage of Eighth Graders Tested Who Scored at Benchmarks on CST Algebra I Test  
Silicon Valley Public Schools

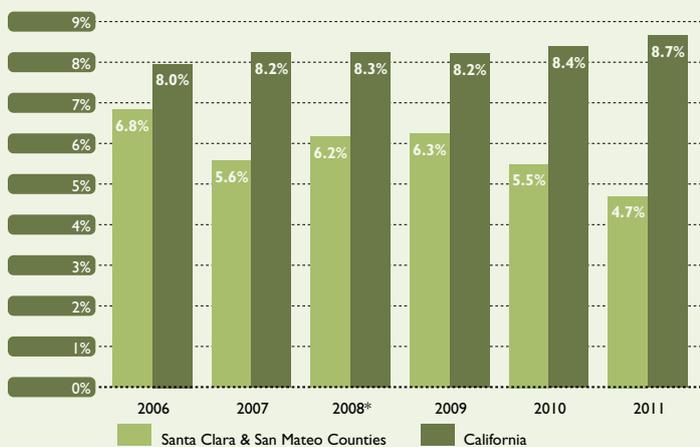


Data Source: California Department of Education  
Analysis: Collaborative Economics

The share of Silicon Valley eighth graders scoring at advanced and proficient levels **fell in 2012**

## Disconnected Youth

Percent of Youth Aged 16-19 who are Not in School or Working  
Santa Clara & San Mateo Counties, and California



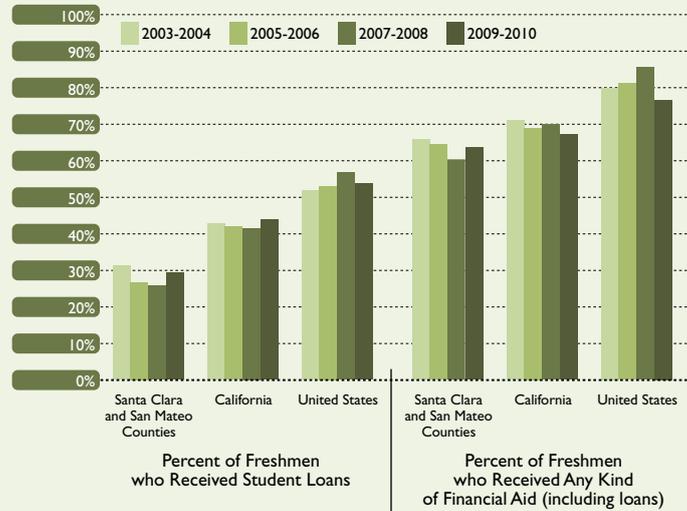
Disconnected youth rates **drop in region** while **increasing across the state**

\*2008 data only available for Santa Clara County  
Data Source: U.S. Census Bureau, American Community Survey  
Analysis: Collaborative Economics

The proportion of students attending Silicon Valley colleges who receive financial aid **ticked up** but lags state and national funding levels

### College Student Debt

Percentage of Full-Time Freshmen who Received Student Loans and Financial Aid  
4-year Colleges and Universities in Silicon Valley, California and the U.S.



Data Source: The Institute for College Access & Success, College InSight; National Center for Education Statistics, IPEDS Data Center  
Analysis: Collaborative Economics

### Average Student Loans and Undergraduate Tuition

Four-Year Colleges and Universities  
Santa Clara & San Mateo Counties



Note: Average student loan data show the amount borrowed among full-time, first-time undergraduate freshmen who took out loans. Average tuition data include all enrolled undergraduates.  
Data Source: The Institute for College Access & Success, College InSight; National Center for Education Statistics, IPEDS Data Center  
Analysis: Collaborative Economics

As tuition costs rise, average borrowing edges up

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# Early Education

Preschool enrollment rates have increased in the region, as eligibility for free or reduced price meals subsides.

## WHY IS THIS IMPORTANT?

High-quality preschool has been shown to have positive, long-term effects on children's learning and development. Once in school, confidence in reading is critical to long-term academic success. Research shows that children who read well in the early grades are far more successful in later years; and those who fall behind often stay behind.<sup>6</sup> Success and confidence in reading are critical to long-term success in school.

## HOW ARE WE DOING?

In 2011, close to half (46%) of Silicon Valley children ages three to five were enrolled in preschool, a three percent increase over the previous year. This rate matches the decade high reached in 2006. National and statewide rates remained constant, with 40 and 37 percent of preschool aged children enrolled in school, respectively.

Disparities exist in English-Language Arts proficiency by race and ethnicity. For Chinese, Asian Indian, Korean and Asian students, more than 80 percent of third-graders tested at or above the "proficient" level. Samoan and Vietnamese students demonstrated the most improvement in English proficiency between 2011 and 2012; the share of students achieving proficient and advanced levels in English-Language Arts jumped by six and five percentage points respectively. African American students also had a notable increase of more than four percentage points over the previous year. Among Hispanic students there was little change between 2011 and 2012, and only 35 percent of students scored above basic proficiency in English-Language Arts.

In 2011, 34 percent of Silicon Valley students were eligible to receive free or reduced priced meals at school, nearing 2008 levels. This marked the first year since 2006 that free meal eligibility dropped in the region. Rates fell roughly two percent in both the state and the region over the previous year, with the state reporting 55 percent of all students eligible for such benefits.

Silicon Valley public school enrollment has grown steadily since 2002, increasing by seven percent over the period. Private school enrollment has fluctuated in response to economic and population trends. After peaking in 2006, private school enrollment fell sharply during the recession and has since rebounded slightly. 2011 marked another year of declining private school enrollment levels, and the share of students enrolled in private school of all Silicon Valley students dipped to 12.8 percent, which is a below-average share of enrollment in the 2002 to 2011 period.

<sup>6</sup> Snow, C., M.S. Burns & P. Griffin. *Preventing Reading Difficulties in Young Children*. Washington, D.C.: National Academy Press. 1998.

# SOCIETY

## Preschool Enrollment

Percentage of Population 3 to 5 Years of Age Enrolled in Preschool  
Santa Clara & San Mateo Counties, California, and the United States



Note: Data includes enrollment in preschool and nursery school, and population for children three to five years of age.  
Data Source: U.S. Census Bureau, 2002-2011 American Community Survey and 2000-2001 Supplementary Survey  
Analysis: Collaborative Economics

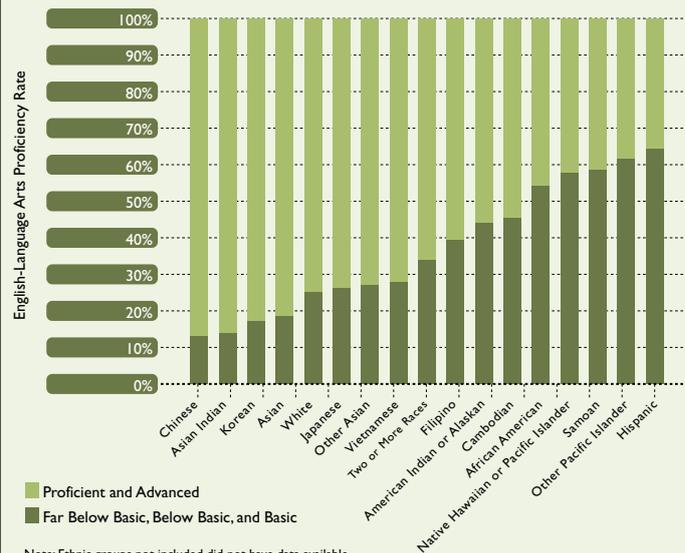
The preschool enrollment rate **shot up in Silicon Valley**, while holding steady in the state and the U.S.

Percentage of Population Enrolled in Preschool (Ages 3 to 5) 2011

Silicon Valley	46%
California	37%
United States	40%

## Third Grade English-Language Arts Proficiency by Race/Ethnicity

San Mateo & Santa Clara Counties, 2012

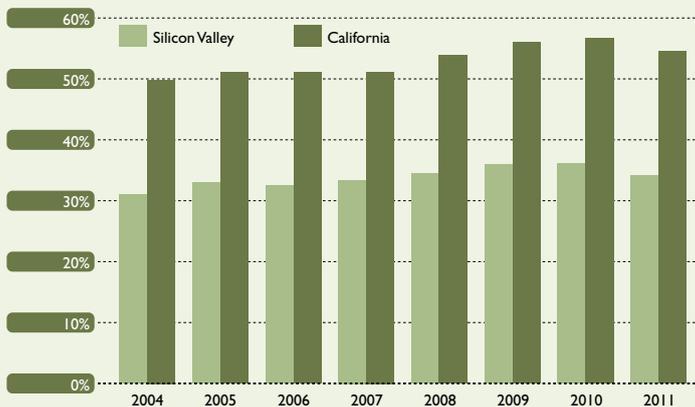


Note: Ethnic groups not included did not have data available  
Data Source: California Department of Education  
Analysis: Collaborative Economics

Third grade English-Language Arts proficiency **varies by race and ethnicity**

### Free/Reduced Price Meals

Percentage of Students Eligible to Receive Free or Reduced Price Meals  
Silicon Valley and California



Data Source: California Department of Education  
Analysis: Collaborative Economics

Following four years of consecutive gains, student eligibility rates to receive free or reduced priced meals **dropped in 2011**

Percentage of Students Eligible to Receive Free or Reduced Price Meals **2011**

Silicon Valley	<b>34%</b>
California	<b>55%</b>

### Relative Growth in Public and Private School Enrollment

Santa Clara & San Mateo Counties



Data Source: California Department of Education  
Analysis: Collaborative Economics

Public school enrollment **rates grow** as private school enrollment takes a hit

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# Arts and Culture

*Arts and culture fuel economic activity in Silicon Valley and nurture community involvement and development.*

# SOCIETY

## WHY IS THIS IMPORTANT?

Art and culture are integral to Silicon Valley's economic and civic future. Nonprofit arts and culture organizations are employers, creative producers, and a reflection of regional diversity and quality of life. These unique cultural activities have a significant local impact - attracting people to the area, generating business throughout the community and contributing to local revenues. Arts and culture volunteers in addition to in-kind donations (e.g., donated assets, office space) play a crucial role in supporting and enhancing these regional assets. Comparable data is available on the economic impact of arts and culture in Santa Clara County as a result of the Americans for the Arts III and IV reports.

## HOW ARE WE DOING?

In 2010, Santa Clara County's arts and culture industry supported more than 4,200 full-time equivalent jobs and generated more than \$5.4 million in local government revenue. The county supported 320 more full-time equivalent jobs in 2010 compared to 2005, though local government revenue decreased ten percent over the same time period. Total spending by the nonprofit arts and culture organizations and audiences was also down ten percent in 2010, but the amount still totaled over \$167 million.

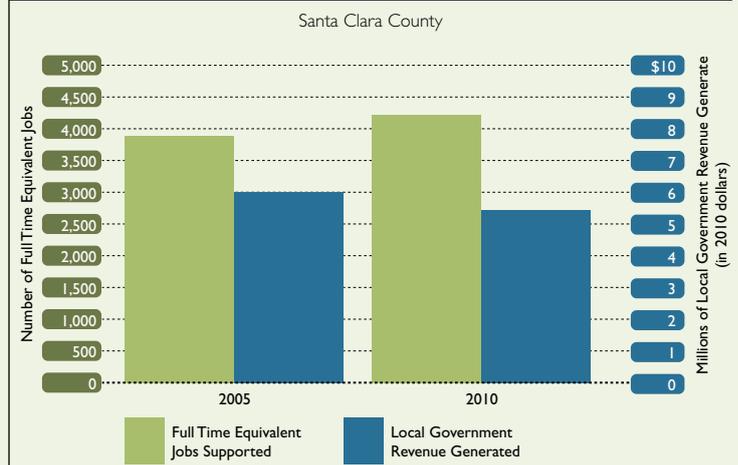
Santa Clara County's in-kind contributions to arts and culture organizations in total amount and per capita both increased between 2005 and 2010. Total contributions in 2010 amounted to more than \$7.9 million, up 20 percent from 2005. Per capita contributions in the region increased 14 percent over the five years to \$4.4 per capita. However, total contributions at the county level fall behind a number of regions, including Chicago (\$9.3) and Portland (\$4.7), but remain above Pittsburgh (\$3.4).

Santa Clara County maintains a strong position in volunteerism, with more average volunteers per organization than large regions such as Chicago and Portland, though fewer than other regions such as Austin. Santa Clara County had roughly 19 fewer volunteers per organization compared to 2005 with an average of 109 volunteers per organization in 2010.

In 2010, arts and culture events drew 45 percent more attendees compared to major professional and collegiate sports teams in the area. These 2.7 million people in the audience spent nearly \$62 million, over half of which was spent locally.<sup>7</sup>

<sup>7</sup> Americans for the Arts. *Arts & Economic Prosperity IV*. 2012.

### Economic Impact of Arts & Culture Industry Spending



Data Source: Americans for the Arts; Bureau of Labor Statistics  
Analysis: Collaborative Economics

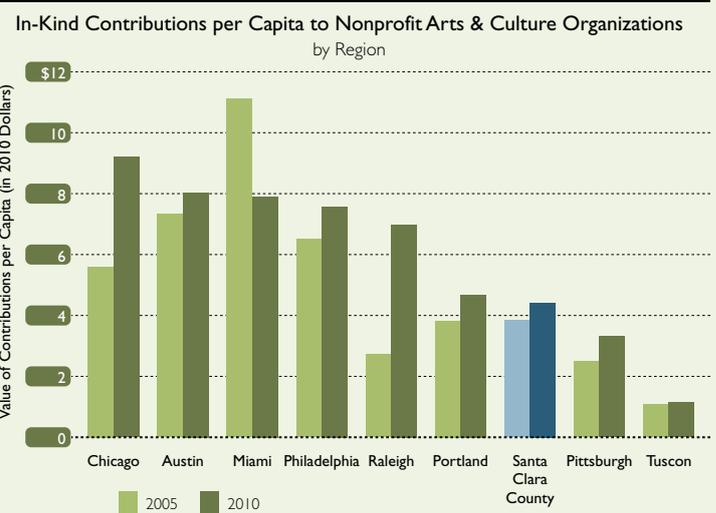
### Total Spending by Non-Profit Arts and Culture Organizations and Audiences (in 2010 dollars)

#### Santa Clara County

2005	\$ 185,911,959
2010	\$ 167,391,526

Arts and culture **jobs up**, while local government **revenues fall**

### Arts & Culture Contributions



Data Source: Americans for the Arts; Bureau of Labor Statistics  
Analysis: Collaborative Economics

### Total Value of In-Kind Contributions (in 2010 dollars)

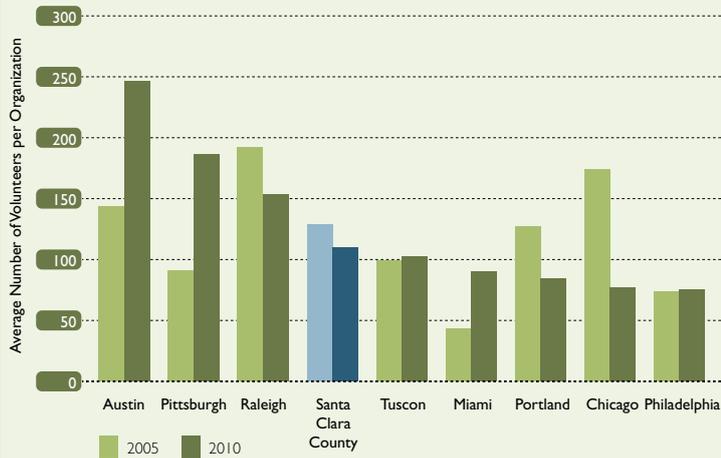
#### Santa Clara County

2005	\$ 6,609,473
2010	\$ 7,909,260

In-kind contributions per capita **are increasing**

## Volunteers in Arts & Culture Industry

by Region

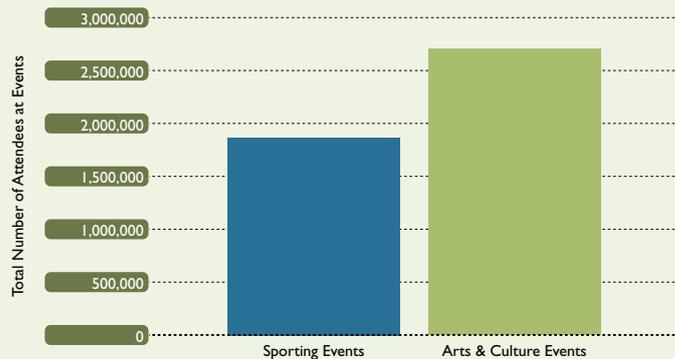


Data Source: Americans for the Arts  
Analysis: Collaborative Economics

Santa Clara's average number of volunteers per arts and culture organization **declined, but still ranks well** relative to other regions

## Event Attendance

Santa Clara County, 2010



Note: Sporting events include professional and collegiate sports home games.  
Data Source: Americans for the Arts, and sports attendance from various sources  
Analysis: Collaborative Economics

Arts and culture event attendance is **45 percent higher** than regional sporting events' audiences

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# Quality of Health

*Infant mortality rates are down and immunization rates are rising, as new health concerns emerge.*

# SOCIETY

## WHY IS THIS IMPORTANT?

Poor health outcomes generally correlate with poverty, poor access to preventative health care, lifestyle choices and education. Early and continued access to quality, affordable health care is important to ensure that Silicon Valley's residents are healthy and prosperous. For example, timely childhood immunizations promote long-term health, save lives, prevent significant disability, and reduce medical costs. Health care is expensive, and individuals with health insurance are more likely to seek routine medical care and to take advantage of preventative health-screening services.

Infant mortality rates and obesity are fundamental indicators of public health. Over the past two decades, obesity has risen dramatically in the United States and its occurrence is not limited to adults. 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 have significant economic impacts on the nation's health care system as well as the overall economy due to declines in production. Providing care to family members or friends impacts all age and social groups, and will become increasingly important as Baby Boomers age, impacting caregivers' ability to work and engage in other activities.

## HOW ARE WE DOING?

The percentage of kindergarten students who have received all required immunizations in Silicon Valley has consistently outranked the state. During the 2011-12 school year, Silicon Valley kindergarten immunization rates edged up to 93.5 percent. Immunization rates in the state showed slight improvement, reaching 91 percent.

Across all categories, more Silicon Valley residents are covered by health insurance plans than California as a whole. Of employed Silicon Valley residents between the ages of 18 to 64, 87 percent had health insurance in 2011, compared to 78 percent statewide. For unemployed Silicon Valley residents, only 62 percent of individuals aged 18-64 had health insurance whereas 96 percent of individuals over the age of 65 were covered. From 2010 to 2011 health insurance rates were fairly consistent across age and employment groups in Silicon Valley, though health insurance coverage increased for both 18 to 64 year olds not in the labor force and employed residents over 65, while health insurance decreased by two percent for unemployed individuals over 65.

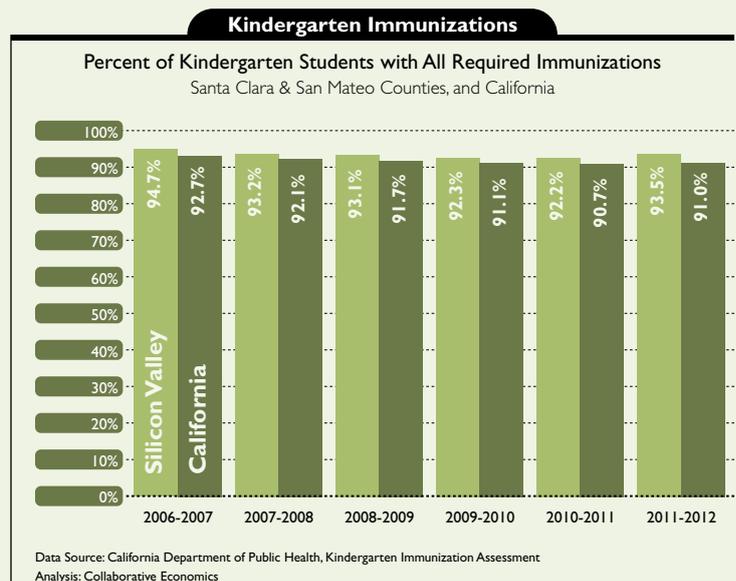
Silicon Valley continues to report a lower infant mortality rate than the state overall. From 2009 to 2010, the infant mortality rate in the region dropped significantly, from 3.7 to 2.9 per 1,000 live births. California rates declined slightly from 4.9 to 4.7. Since 1994 infant mortality rates have steadily declined in the state, falling by 2.3 deaths per 1,000 live births. Silicon Valley rates have varied, but dropped by a similar 2.2 deaths over the same time period.

Silicon Valley maintains lower student obesity levels than the state as a whole, while rates in both regions have remained stable since 2005. Silicon Valley levels dropped slightly in 2010 to 33.1 percent of the student population categorized as overweight or obese compared to 38 percent statewide.

Adult obesity levels have fluctuated in Silicon Valley since 2001, but remain below state levels. In 2009, overweight rates in the region fell to 29.7 percent, while the percentage of obese adults reached a decade high (18.8%). The proportion of the adult population statewide that is obese similarly increased to a high of 22.7 percent in 2009. For both Silicon Valley and California, declines in the proportion of overweight adults have been partially offset by increases in the proportion of obese adults. In an effort to combat obesity, Silicon Valley policy makers have launched initiatives including "Let's Move Silicon Valley Businesses", whose goal is to encourage businesses to adopt workplace wellness programs for employees and their families.<sup>8</sup>

Of the caregivers in Silicon Valley, over half (60%) are between the ages of 40 and 64. In 2009, 22 percent of Silicon Valley adults and 23 percent of California adults provided care to a family member or friend with an illness or disability in that year. Over a third (34%) of Silicon Valley residents between the ages of 53 and 64 are caregivers, compared to 30 percent in the state. The majority (53%) of Silicon Valley caregivers also work full time, slightly higher than the state average. More than a third of caregivers in the region are unemployed, including retired persons.

<sup>8</sup> The California Endowment. *Silicon Valley's Businesses Take Action to End Obesity*. 6 Jun. 2012.



Kindergarten immunization rates **pass 2007/08 levels**

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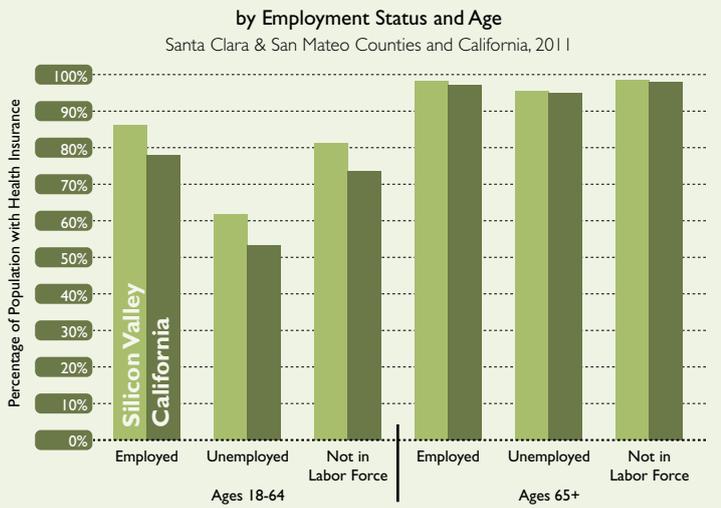
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Percentage of Population with Health Insurance



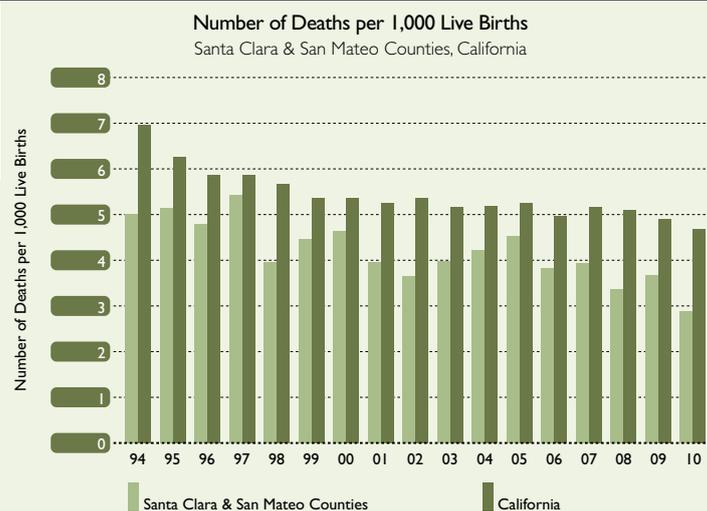
Silicon Valley residents are **more consistently covered** by health insurance plans than residents throughout the state

Data Source: U.S. Census Bureau, American Community Survey  
 Analysis: Collaborative Economics

Silicon Valley  
 Percentage of Individuals with Health Insurance

		2009	2010
Age 18-64	Employed	87%	87%
	Unemployed	62%	62%
	Not in labor force	80%	81%
Age 65+	Employed	98%	99%
	Unemployed	98%	96%
	Not in labor force	99%	99%

Infant Mortality Rate

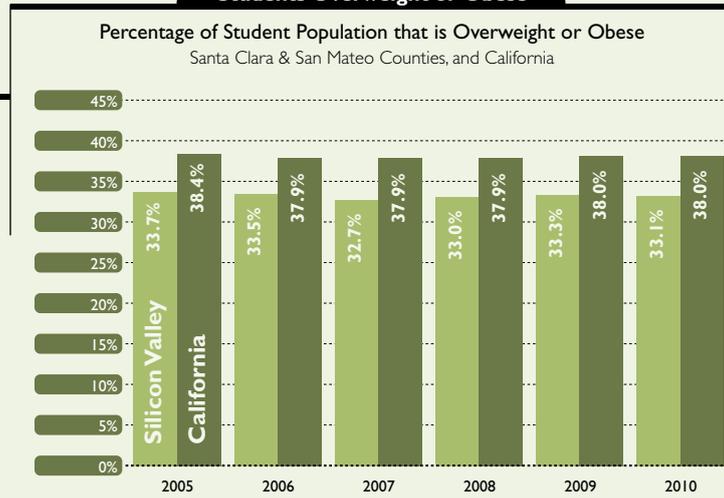


Data Source: California Department of Public Health, Center for Health Statistics  
 Analysis: Collaborative Economics

Infant mortality rate is **significantly down** in the region and state

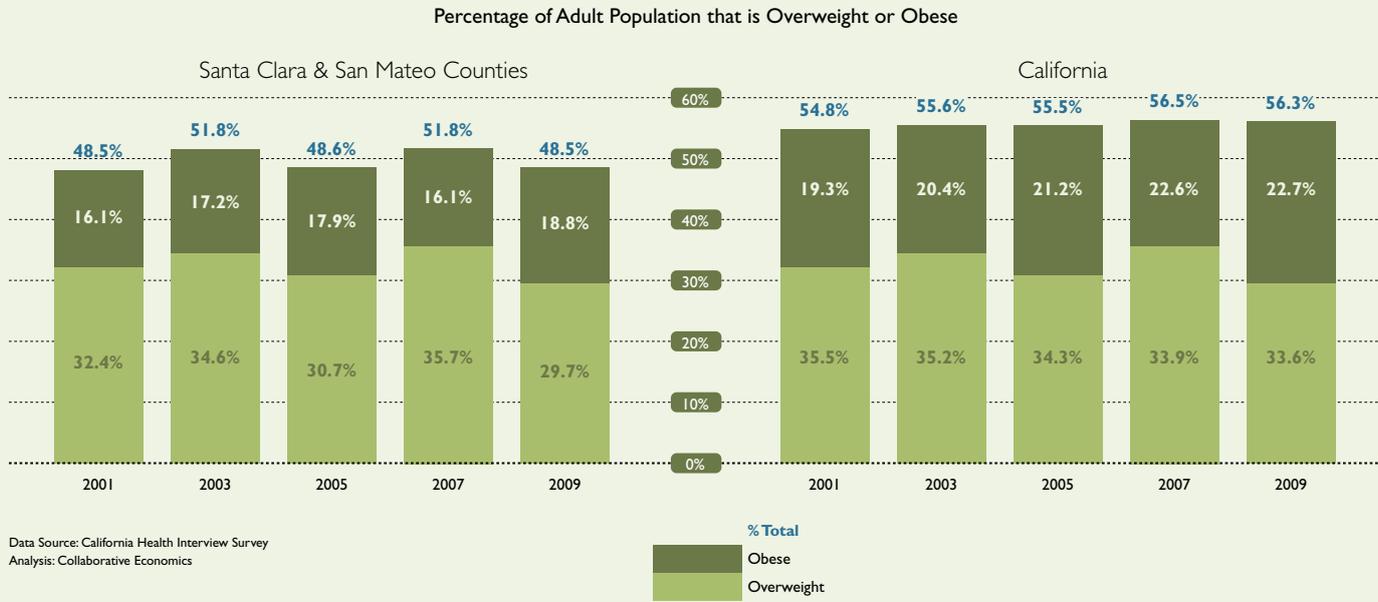
## Students Overweight or Obese

Student **obesity rates hold steady** in Silicon Valley and the state



Data Source: UCLA Center for Health Policy Research Analysis of California Physical Fitness Test Data  
Analysis: Collaborative Economics

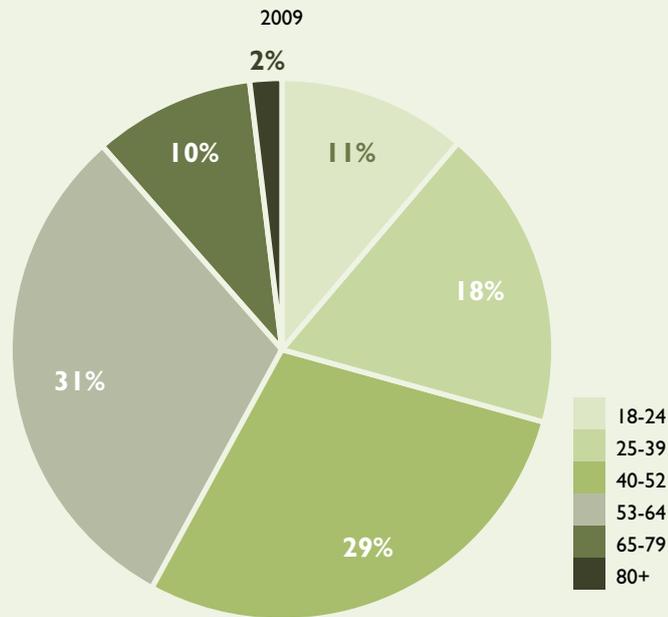
## Adults Overweight or Obese



Obesity levels **increase** as the percentage of overweight adults **falls**

Most Silicon Valley caregivers are between the ages of **40 and 64**

### Age of Silicon Valley Caregivers



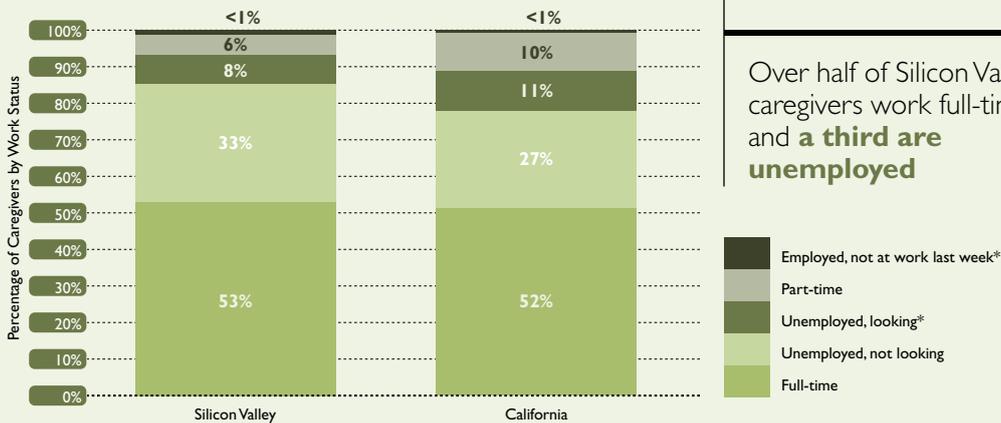
Note: Caregivers are defined as adults who have provided care to a family member or friend with an illness in the past year.  
Data Source: California Health Interview Survey  
Analysis: Collaborative Economics

### Percentage of Age Group that are Caregivers

	Adults 40-52	Adults 53-64	Overall
Silicon Valley	22%	34%	22%
California	26%	30%	23%

### Work Status of Caregivers

Silicon Valley and California, 2009



Over half of Silicon Valley caregivers work full-time and **a third are unemployed**

\*Data not statistically significant for Silicon Valley  
Note: Caregivers are defined as adults who have provided care to a family member or friend with an illness in the past year.  
Data Source: California Health Interview Survey  
Analysis: Collaborative Economics

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# Safety

While both adult and juvenile total felony cases continue a downward trend, juvenile felony drug offenses and total assault cases inch up.

## WHY IS THIS IMPORTANT?

The level of crime is a significant factor affecting the quality of life in a community. Incidence of crimes and assaults not only pose an economic burden, but also erode our sense of community by creating fear, frustration and instability. Occurrence of child abuse and or neglect is extremely damaging to the child and increases the likelihood of drug abuse, poor education performance and criminality later in life. Research has also linked adverse childhood experiences, such as child abuse and or neglect, to poor health outcomes including heart disease, depression, and liver and sexually transmitted diseases. Safety for the community starts with safety for children in our homes.

## HOW ARE WE DOING?

The rate of child abuse cases in Silicon Valley edged up in 2011 to 3.9 cases per 1,000 children, after declining over the previous three years. At the same time, the number of social service employees in the region has consistently declined since hitting a peak of roughly 1,130 in 2002. The rate of child abuse cases in the state has steadily fallen over the past decade and the trend continued in 2011, dropping two percent.

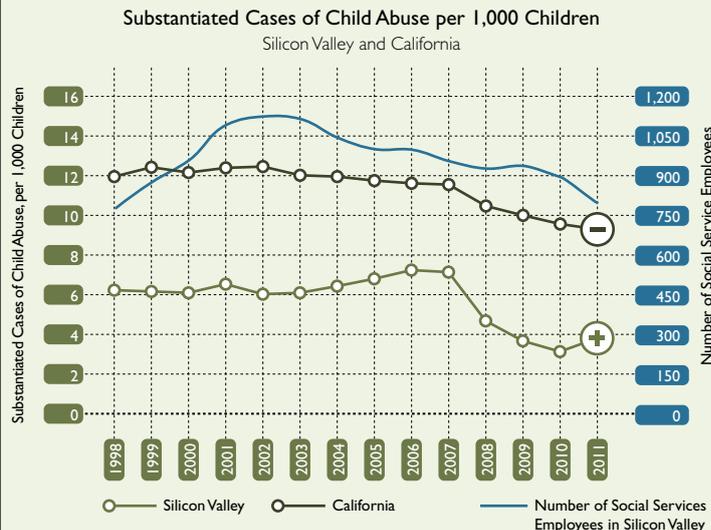
Felony offenses continue to decline in Silicon Valley and California, following a downward trend since 2007. In 2010, the rate of Silicon Valley juvenile felony offenses dropped 12 percent, falling below adults offenses in the region with 801 cases per 100,000 juveniles. Since 1998 the rate of Silicon Valley juvenile felony offenses fell 48 percent, while adult offenses decreased 27 percent.

Since reaching a high in 2005, adult felony drug offenses have consistently declined, reporting a historic low of 304 offenses per 100,000 Silicon Valley adults in 2010. The number of drug and rehabilitation clients have followed suit, dropping a substantial 20 percent in 2010, while increasing overall numbers to roughly 9,380 in 2011. Approaching 2000 levels, the juvenile felony drug rate inched up to 152 offenses per 100,000 juveniles in 2010. Rehabilitation clients jumped 13 percent to a decade high of 1,328 in the same year. Rehabilitation entrance numbers slowed in 2011 to just under 1,250 patients. Over the long term, rehabilitation clients have expanded 65 percent as drug offenses declined eight percent.

The assault rate continues to climb in Silicon Valley for both genders, while falling in the rest of the state. However, the number of cases remains lower in the region, with 149 cases per 100,000 females compared to 208 in the rest of the state and 279 cases per 100,000 males compared to 438 in the rest of the state.

# SOCIETY

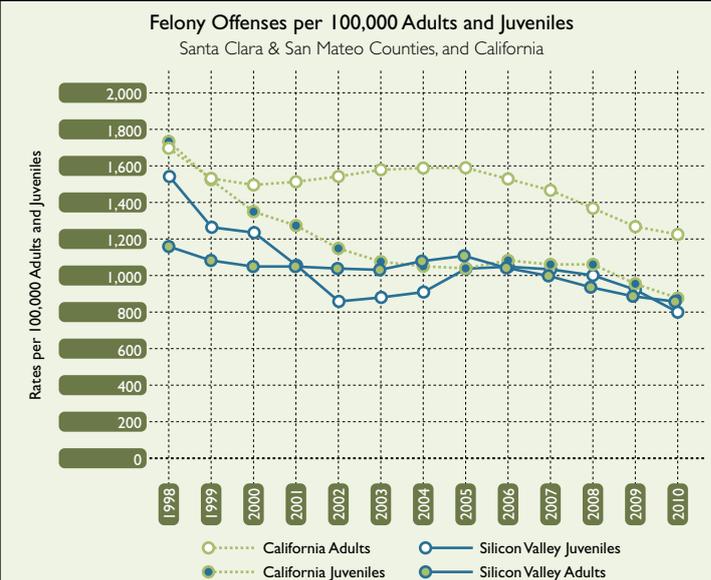
## Child Abuse



Note: The recent decline in cases from 2007 to 2010 can be explained in part by large funding cuts in social services programs for children. Social services employee figures are reported by fiscal year.  
Data Source: California Department of Social Services, UC Berkeley Center for Social Services Research  
Analysis: Collaborative Economics

Substantiated cases of child abuse inched up in Silicon Valley as social service employee numbers slipped

## Felony Offenses



Note: Felony offenses include violent, property, and drug offenses  
Data Source: California Department of Justice  
Analysis: Collaborative Economics

## Felony Offenses in the Region

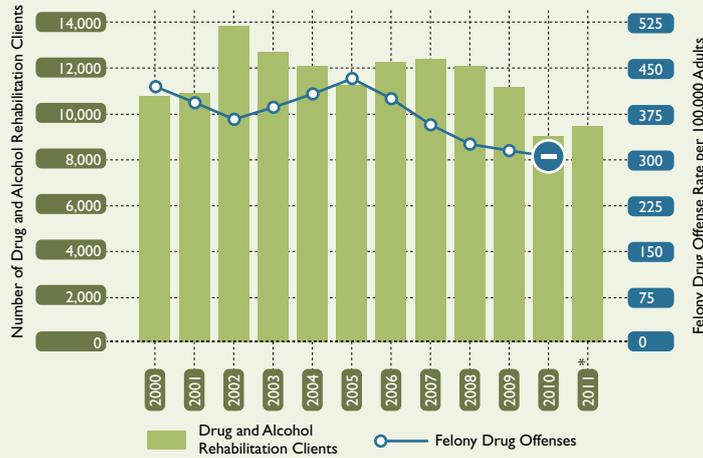
	2009	2010	% Change
Adults	887	843	-5%
Juveniles	915	801	-12%

Felony offenses continue a downward trend

Adult felony drug offense rate **hits decade low**, as rehabilitation clients tick up

### Drug Offenses & Services – Adult

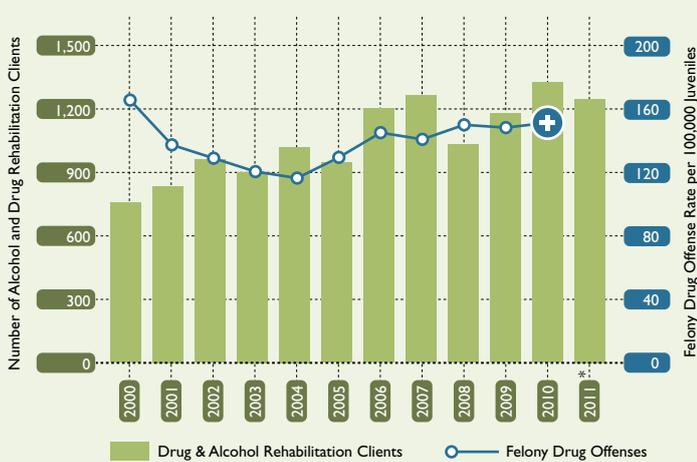
Adult Drug & Alcohol Rehabilitation Clients & Felony Drug Offenses  
Santa Clara & San Mateo Counties



\*2011 felony drug offense data is not available.  
Note: Rehabilitation figures are reported by fiscal year.  
Data Source: California Department of Justice; Santa Clara County Department of Alcohol & Drug Services; Alcohol & Drug Services Research Institute; San Mateo County Human Services Agency, Planning & Evaluation  
Analysis: Collaborative Economics

### Drug Offenses & Services – Juvenile

Juvenile Drug & Alcohol Rehabilitation Clients & Felony Drug Offenses  
Santa Clara & San Mateo Counties



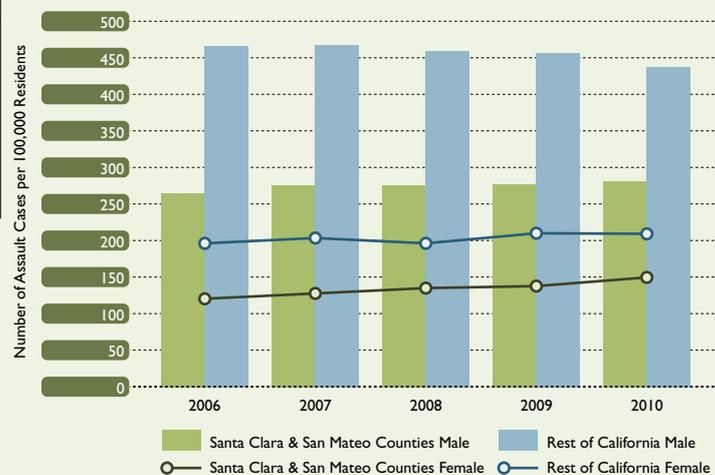
Juvenile felony drug offenses **inch up**, as rehabilitation clients remain substantial

\*2011 felony drug offense data is not available.  
Note: Rehabilitation figures are reported by fiscal year.  
Data Source: California Department of Justice; Santa Clara County Department of Alcohol & Drug Services; Alcohol & Drug Services Research Institute; San Mateo County Human Services Agency, Planning & Evaluation  
Analysis: Collaborative Economics

Assault rate remains **lower in the region than the state**, but has inched up while state levels drop

### Assault Cases

Number of Assault Cases per 100,000 Males and Females  
Santa Clara & San Mateo Counties, and the Rest of California



Data Source: California Department of Public Health; Department of Finance  
Analysis: Collaborative Economics

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*Resource consumption and per capita electricity consumption wane, as electricity productivity and residential solar installations edge up.*

## WHY IS THIS IMPORTANT?

Environmental quality directly affects the health of all residents as well as the Silicon Valley ecosystem. The environment is affected by the choices that residents make about how to live—how we choose to access work; purchase goods and services; where we build our homes; our level of consumption of natural resources; and how we enforce environmental guidelines.

Energy consumption impacts the environment with emissions of greenhouse gases and atmospheric pollutants through the combustion of fossil fuels. 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 greenhouse gasses and other harmful emissions. Electricity productivity illustrates the degree to which the region's production of economic value is linked with its electricity consumption.

In recent years, residents and businesses are investing in renewable energy installations. The length of a municipality's required permitting process can pose significant barriers to the widespread adoption of renewable energy installations and add significantly to the costs. Streamlining the region's permitting requirements will yield environmental and economic gains.

## HOW ARE WE DOING?

Since 1998, Silicon Valley's daily per capita waste disposal has fallen steadily, decreasing by 42 percent while the rest of the state only reduced waste by 28 percent. Waste disposal rates continue to decrease, and between 2010 and 2011 Silicon Valley daily per capita waste disposal dropped six percent, compared to a two percent reduction in the rest of California. Silicon Valley has also achieved a greater reduction in total amount of waste since 1995 than the rest of the state, with a 28 percent reduction compared to a 12 percent reduction statewide.

Silicon Valley's economic output has increased at a faster rate than electricity consumption, with electricity productivity jumping five percent in 2011. In comparison, electricity productivity in the rest of California increased less than two percent over the same time period. Electricity productivity in the region has grown 15 percent since 1998, similar to the rest of the state (14 percent), although Silicon Valley's electricity productivity was 24 percent higher than the rest of the state in 2011.

Silicon Valley is also becoming more efficient, with electricity consumption per capita falling 2.5 percent in 2011 to roughly 8,300 kWh per person, an eight percent drop from its peak in 2008. The rest of California reported lower electricity consumption per capita at just over 7,200 kWh per person, though it is decreasing at a slower rate than the region. The rest of the state decreased one percent since 2010 and seven percent since 2008.

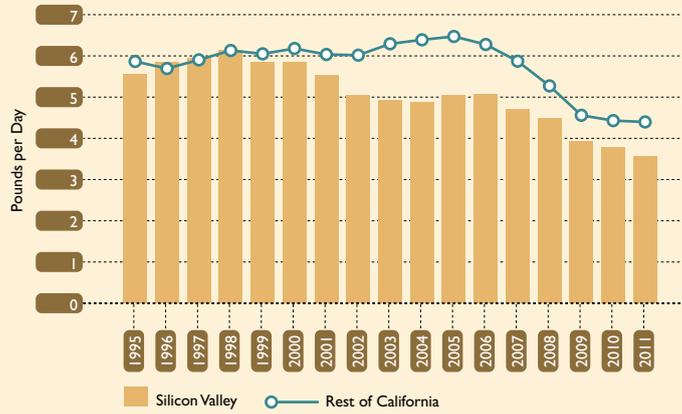
Overall solar installations in Silicon Valley increased 14 percent in 2012 from 2011. Over half of the solar installations were in the government and non-profit sectors, which jumped 41 percent from the previous year to over 17,500 kilowatts installed. The residential sector installations ranked second with nearly 11,200 kilowatts installed in 2012. New commercial sector installations added roughly 6,000 kilowatts in 2012, a 13 percent drop from 2011 installation levels. Annual solar installations in Silicon Valley are nearly eleven times larger in 2012 compared to 2007.

Median permitting times varied over the past year for the four technologies evaluated. In 2012, permitting for electric vehicle charging stations and solar installations decreased or stayed the same, whereas permitting times for geothermal and wind installations increased. Electric vehicle charging stations continue to have the lowest median permitting time in Silicon Valley cities, with half reporting one day or less and the average time decreasing to about four days in 2012. Permitting time for solar installation also decreased across cities, with half reporting less than three days to obtain a permit. Wind permitting time has fluctuated the most since 2009, but that is due in part to the low number of cities that have new wind installations (and therefore report data). The median permitting time for wind turbines increased to just over 11 days in 2012, though the range of permitting time is similar to 2011. Geothermal installation permitting time increased slightly to a median of 14 days, though the variation in permitting times decreased from 2011.

Silicon Valley daily per capita waste disposal **fell six percent** compared to a two percent drop statewide

### Waste Disposal per Capita

Santa Clara & San Mateo Counties, and the Rest of California



Data Source: California Department of Resources Recycling and Recovery, Department of Finance  
Analysis: Collaborative Economics

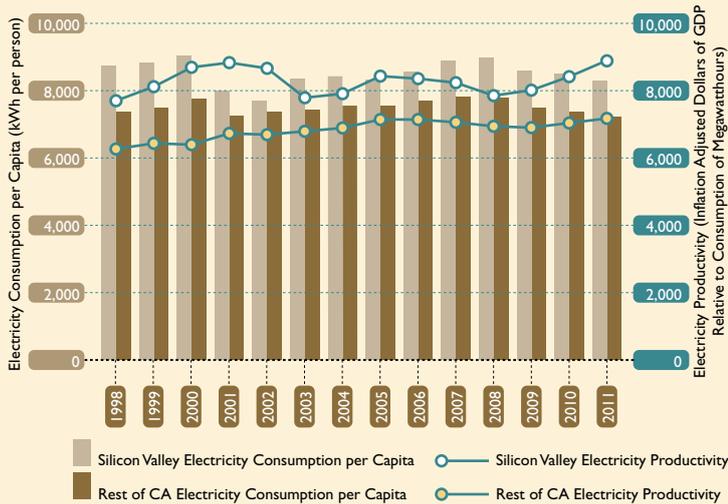
### Waste Disposal per Capita

#### Percent Change

	1995-2011	2010-2011
Silicon Valley	<b>-36%</b>	<b>-6%</b>
Rest of California	<b>-26%</b>	<b>-2%</b>

### Electricity Productivity & Consumption per Capita

Santa Clara & San Mateo Counties, Rest of California



Data Source: Moody's Economy.com, California Energy Commission; State of California, Department of Finance  
Analysis: Collaborative Economics

Silicon Valley electricity **productivity jumped 5.2 percent** and per capita **consumption fell 2.5 percent** in 2011

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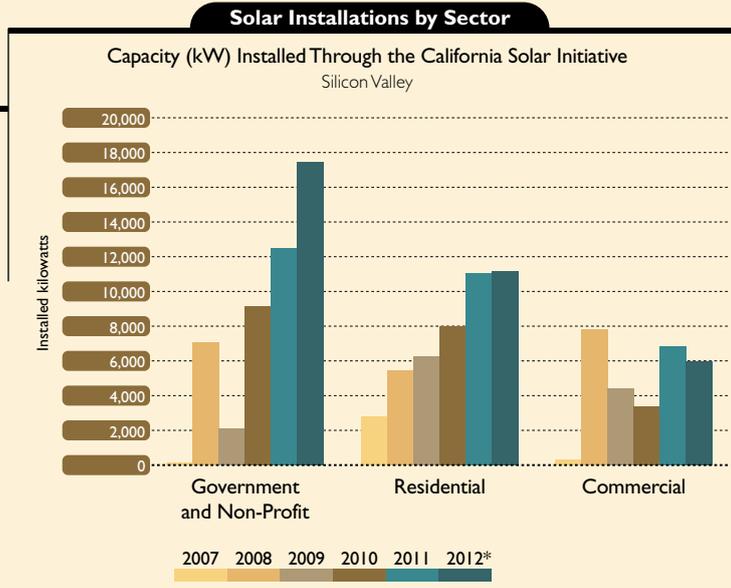
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Government and non-profit solar **surges**, as residential edges up and commercial **falls**



\*Data is through December 12, 2012.  
 Note: Year based on First Incentive Claim Request Review Date, and includes application status as Completed, PBI-in payment, Pending Payment, Incentive Claim Request Review  
 Data Source: California Public Utilities Commission, California Solar Initiative; Palo Alto Municipal Utilities, PV Partners Program; Silicon Valley Power  
 Analysis: Collaborative Economics, Optony, Inc.

In 2008, Joint Venture's Public Sector Climate Task Force launched the Silicon Valley Collaborative Renewable Energy Procurement (SV-REP) Project in partnership with the County of Santa Clara to address the major challenges regarding public sector adoption of renewable energy with limited financial resources. This project led to the largest multi-agency procurement of renewable energy in the U.S., involving 70 sites in 43 locations. In 2011, Joint Venture expanded this initiative in partnership with the County of Alameda and the Contra Costa Economic Partnership. The Regional Renewable Energy Procurement Project (R-Rep) is open to all public agencies in Santa Clara, San Mateo, Alameda and Contra Costa Counties. The collaborative procurement model has been successful at driving down the cost of solar for public agencies, saving participants 75 to 95 percent on upfront costs and 10 to 14 percent cost reductions from volume and competitive pricing, among other benefits. Between 2011 and 2012, 11.4 MW of solar capacity was installed through the collaborative.<sup>9</sup>

<sup>9</sup>Joint Venture Silicon Valley. *The Regional Renewable Energy Procurement Project.*

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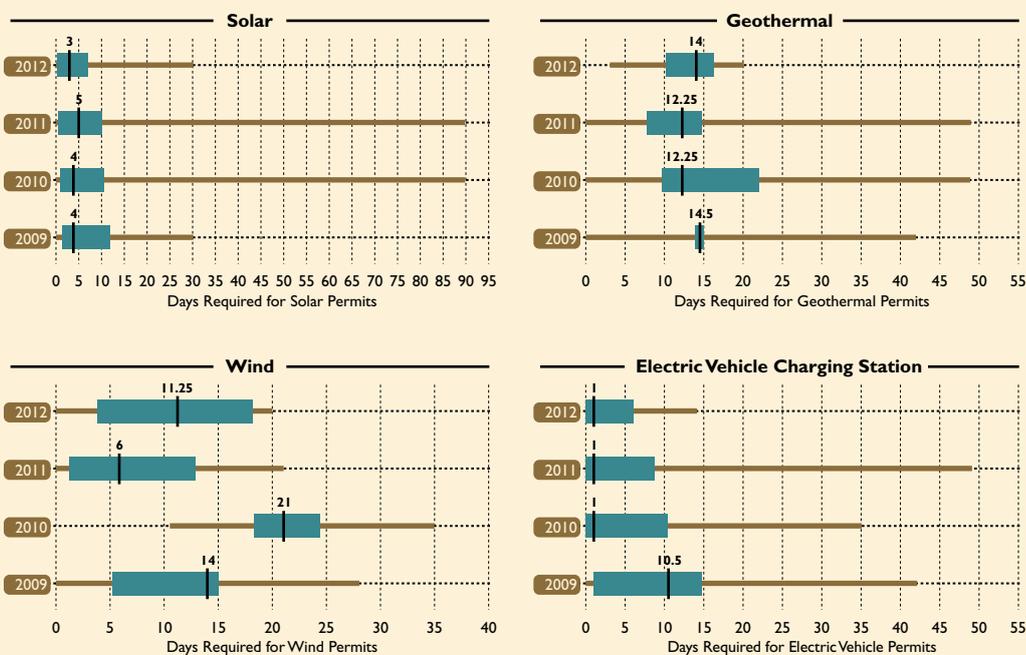
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Time Required for Permitting of Renewable Energy Installation



\*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: Collaborative Economics

In the charts above, the blue box represents the range for which the middle 50 percent of the responses fall. The vertical black line in the blue box represents the median (middle) value of the data set. The left-hand line represents the range for the lower 25 percent of the responses, and the right-hand line represents the range for the upper 25 percent.

Permitting times for renewable energy systems **remained stable or increased** since 2011

# Transportation

*Silicon Valley is becoming more interconnected with San Francisco as residents commute to and from both regions and transit ridership increases.*

# PLACE

## WHY IS THIS IMPORTANT?

The transportation system for the western part of the United States, Silicon Valley included, was built around the private automobile. Federal and state government funds have supported the construction of thousands of miles of highways designed for the single commuter. However, a growing realization of the impact of carbon based fuels on our environment and the continued population growth in California and its resulting traffic congestion have led many communities to adopt and support alternative means of transit.

## HOW ARE WE DOING?

In 2011, California gas prices reached a historic high of \$3.93 per gallon. Vehicle miles traveled (VMT) increased five percent for Silicon Valley residents, following four years of declining levels. This simultaneous increase in VMT per capita and gas prices runs contrary to recent trends and is likely due to the region's gradual recovery from the recession, as residents drive to work (and for pleasure) due to increased employment and rising wages. With the exception of 2009, gas prices have risen steadily each year; from 2009 to 2011 statewide gas prices have increased 35 percent while VMT per capita ticked up two percent.

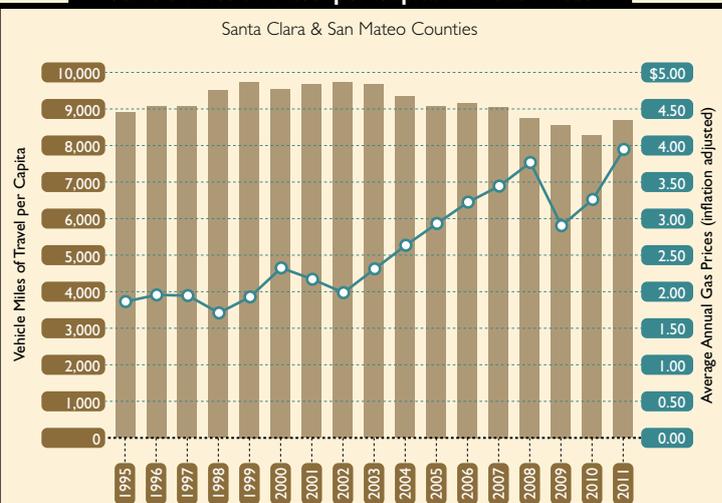
In 2008 the California legislature passed Senate Bill 375 which called for local governments to lessen green house gas (GHG) emissions specifically by reducing the VMT per capita. By creating higher density development, better alternatives to solo driving, and pricing both driving and parking to reflect the real, social costs of these actions, the effort to reduce VMT is an integrated strategy to reduce the GHG emissions in the state while improving public health outcomes. The Metro Transit Authority (MTA) has jurisdiction over the nine county area that includes Silicon Valley. MTA's targets for emissions reductions are a seven percent reduction by 2020 and a 15 percent reduction by 2035. The base year for the reductions is 2005. While most of the GHG reductions will come from increased integration of like alternative fuels and more efficient vehicles, reducing the overall miles traveled by single occupancy drivers should create positive social and environmental benefits for the entire region.

Over the last decade, driving alone has continued to be the predominant mode of transportation for commuters. However, since 2003, more people are utilizing other means of transportation than driving to work, leading to a three percent drop in car commuting. Those who commute on a bicycle, motorcycle, or through other means increased 1.2 percent in the eight year span. Public transit and walking grew in relative popularity as well.

Transit ridership ticked upwards 1.3 percent in 2012 after back-to-back declines in 2010 and 2011. Compared to a decade ago, transit usage has dropped off precipitously; per capita transit ridership declined 18 percent from 2002 to 2012, dropping from a high of 33.5 to 27.5 rides per person. In the aftermath of both of the decade's recessions, transit ridership dipped in the subsequent three years before recovering slowly.

The San Francisco peninsula is increasingly integrated. Silicon Valley continues to see a robust flow of commuters within the two counties as well as between the region and San Francisco. In 2011, a quarter of peninsula commuters lived in San Francisco and commuted to Silicon Valley, while over a third lived in Silicon Valley and worked in San Francisco.

**Vehicle Miles of Travel per Capita and Gas Prices**



Note: Gas prices are average annual retail gas prices for California  
 Data Source: California Department of Transportation; Energy Information Administration, U.S. Department of Energy; California Department of Finance  
 Analysis: Collaborative Economics

## Gas prices and Vehicle Miles Traveled per Capita rise in 2011

### Percent Change 2010-2011

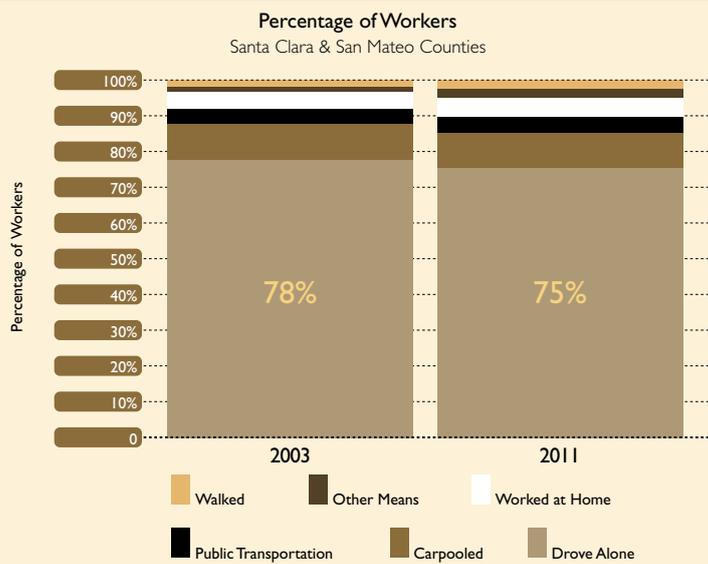
VMT Per Capita	<b>+5%</b>
Gas Prices	<b>+19%</b>

**Three-quarters of the workforce drives to work alone**, while other commuters are finding alternative forms of transportation

**Means of Commute Change in Distribution 2003-2011**

Other Means	+1.2%
Worked at Home	+0.6%
Public Transportation	+0.6%
Walked	+0.5%
Carpooled	-0.2%
Drove Alone	-2.8%

**Means of Commute**



Note: Other Means includes taxicab, motorcycle, bicycle and other means not identified separately within the data distribution.  
Data Source: U.S. Census Bureau, American Community Survey  
Analysis: Collaborative Economics

**Transit Use**

Number of Rides per Capita on Regional Public Transportation Systems  
Santa Clara & San Mateo Counties

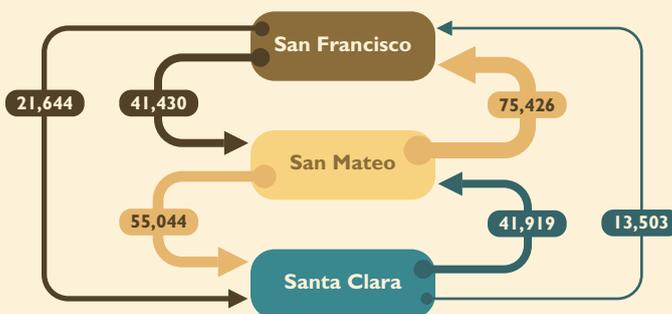


Note: Transit data is in fiscal years  
Data Source: Altamont Commuter Express, Caltrain, Sam Trans, Valley Transportation Authority, California Department of Finance  
Analysis: Collaborative Economics

Following three years of decline, **transit use rebounded** and is up 1.3 percent

**Commute Patterns**

Number of Residents who Commute to Another County Within the Region  
2011



Data Source: U.S. Census Bureau, American Community Survey PUMS  
Analysis: Collaborative Economics

The region is **interconnected** as a significant number of residents work outside their county of residence

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# Land Use

*Residential density inches up as more approved construction is near transit.*

# PLACE

## 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. 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.

## HOW ARE WE DOING?

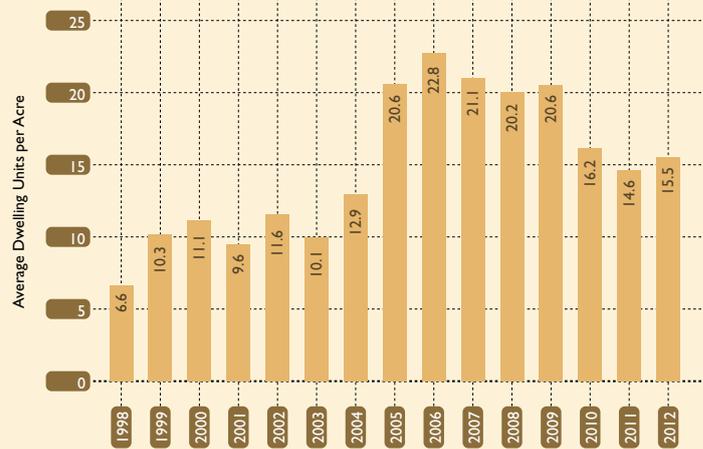
Low residential density is a sign of urban sprawl. After reporting 20 units per acre or more of newly approved residential development for five years, Silicon Valley's residential density fell until a recent uptick. Residential density reached 15.5 units per acre in 2012 and has increased 8.9 units per acre since a low of 6.6 in 1998.

Residential and commercial development near public transit reduces the usage of personal vehicles for transportation, decreasing road congestion and harmful emissions. The share of housing units approved near mass transit expanded to 82 percent in 2012, a 15-year high. This large jump from 2011 levels may be due in part to the expanded definition of transit-oriented development from 1/4 mile to 1/3 mile in 2012. New housing units near transit totaled 3,619 in 2012, a 20 percent increase from 2011 levels.

In 2012, just over half (51%) of non-residential development was near transit. The net square feet of non-residential development near transit is lower than the previous year, though this is tied to a 31 percent drop in overall development levels.

### Residential Density

Average Units per Acre of Newly Approved Residential Development  
Silicon Valley

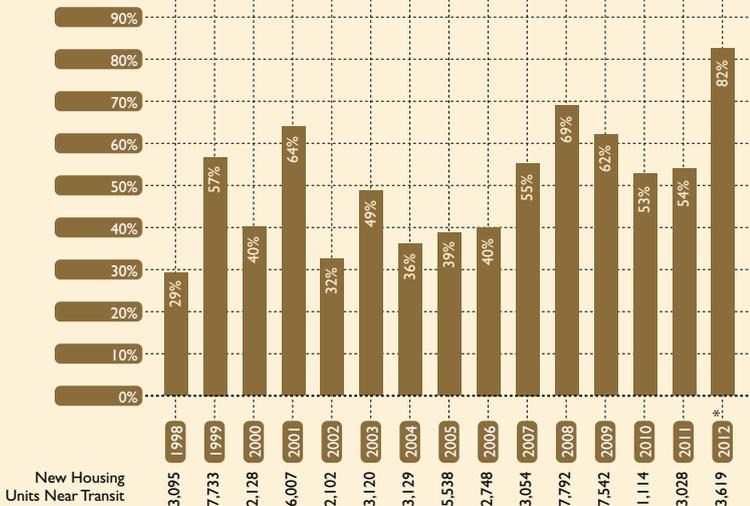


Note: Beginning in 2008, the Land Use Survey expanded its geographic definition of Silicon Valley to include cities northward along the U.S. 101 corridor (Brisbane, Burlingame, Millbrae, San Bruno and South San Francisco)  
Data Source: City Planning and Housing Departments of Silicon Valley  
Analysis: Collaborative Economics

**Residential density increases** to 15.5 average dwelling units per acre

### 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

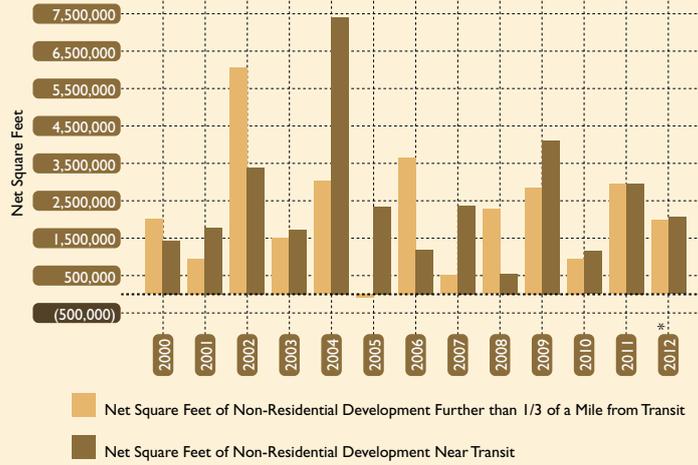


Housing near transit  
shot up

\*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: Collaborative Economics

### Development Near Transit

Change in Non-Residential Development Near Transit  
Silicon Valley



A great proportion of approved non-residential construction is near mass transit, while **overall development falls**

\*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: Collaborative Economics

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*Homeowners are feeling relief from the housing cliff, while the rental market is becoming increasingly saturated.*

## WHY IS THIS IMPORTANT?

The affordability of housing impacts a region's economy and quality of life. 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 in the communities in which they work. As a region's attractiveness to new residents increases, home sales, average home prices and rental prices tend to increase. If not matched with new construction, higher housing prices will decrease the affordability of the area. The most recent recession severely disrupted the residential housing market, and foreclosures and underwater mortgages shed light on the status of the recovery to date.

## HOW ARE WE DOING?

Although the financial pinch for current homeowners lessened in 2012, there is more comparative demand for rental housing than homeownership in Silicon Valley, which has decreased affordability for renters. In 2012, Silicon Valley average rents reached a decade high of \$1,966, a ten percent increase over the prior year. Conversely, median household income continues to decline for the third consistent year, falling 3.8 percent in 2011 to a decade low. In 2011, the proportion of renters with housing costs greater than 35 percent of their income reached a peak of 39 percent in Silicon Valley, a trend mirrored in California by an increase of 46 percent.

Approvals for construction of new affordable housing in 2012 dropped to the lowest levels of the 15-year reporting period, compounding housing affordability challenges for Silicon Valley's middle and lower income residents. The 83 approved new affordable housing units represented only two percent of total new residential units in 2012, a 68 percent drop from 2011.

The economic situation for current homeowners is improving, though demand from potential homeowners to purchase homes remains flat. In 2011, the percent of Silicon Valley (36%) and California (38%) homeowners burdened by housing costs dropped three and two percent respectively. Over the last decade, mortgage payments have represented a growing percentage of household incomes both in the region and the state; however, this rate has been declining since 2008. The percentage of first-time homebuyers that can afford to purchase a median-priced home in Silicon Valley fell slightly in 2012. Los Angeles Area and the state followed a similar declining trend, while other California regions reported increased affordability. Of other California regions, Silicon Valley continues to be the least affordable with only 58 percent of potential first-time homebuyers able to afford a median-priced home.

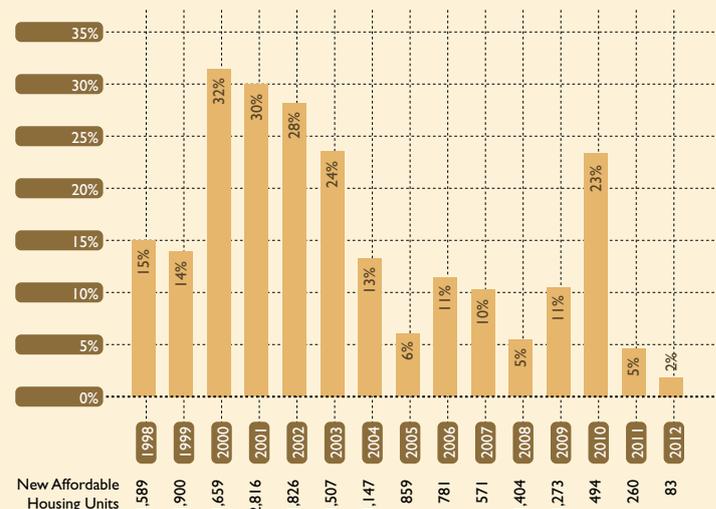
Since hitting a low point in 2008, home sales have leveled off, reaching roughly 29,000 in 2011. In the first half of 2012, home sales in the region reached 16,000, suggesting an overall increase in the annual number. Average sale prices have held steady over the past four years, rising two percent over last year to \$671,926. While single family housing starts inched up in 2011, a significant drop in multi-family housing construction led to an overall 42 percent fall over the previous year. Through November 2011, 2,653 new housing starts were constructed compared to over 6,200 in 2006.

Annual Silicon Valley foreclosures have consistently dropped since a high of 8,831 in 2008. This year continues the trend, with significantly fewer (-41%) foreclosures reported in the first half of 2012 as compared with the first half of 2011. As of June 2012, 1,841 homes have been foreclosed upon, half the rate of foreclosures from January to June 2008, during the peak of the housing crisis. California foreclosures have also subsided, with 51,424 in the first part of 2012, a 54 percent drop from the level of foreclosures in the first half 2008.

Silicon Valley's rate of underwater mortgages varies widely within the region, and has fluctuated over time. After a year of increasing rates, Silicon Valley underwater mortgages dropped to 19 percent in the second quarter of 2012. This rate compares to 37 percent in California and 31 percent in the U.S. In Newark, Union City, and Gilroy, the three cities with the highest percentage of underwater mortgages in the region, this rate was 25 percent and above. Los Altos, Saratoga, and Cupertino, the three cities faring the best, had rates of less than five percent.

### Building Affordable Housing

Affordable Units as a Percentage of Total Approved New Residential Units  
Silicon Valley

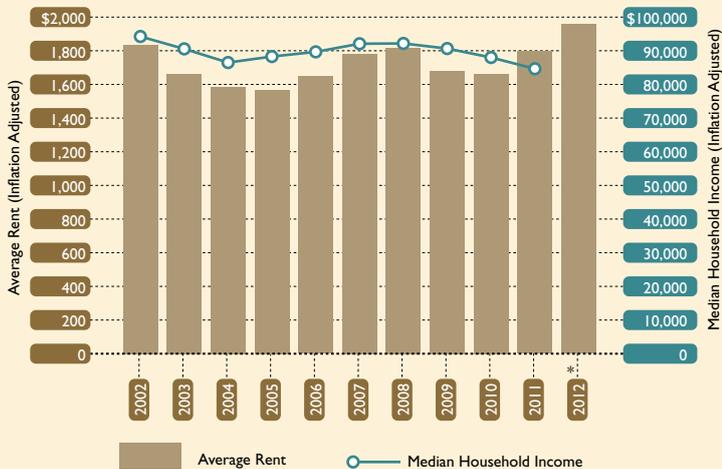


Note: Beginning in 2008, the Land Use Survey expanded its geographic definition of Silicon Valley to include cities northward along the U.S. 101 corridor (Brisbane, Burlingame, Millbrae, San Bruno and South San Francisco)  
Data Source: City Planning and Housing Departments of Silicon Valley  
Analyst: Collaborative Economics

New affordable housing development at 15-year low

### Rental Affordability

Apartment Rental Rates at Turnover Compared to Median Household Income  
Santa Clara & San Mateo Counties

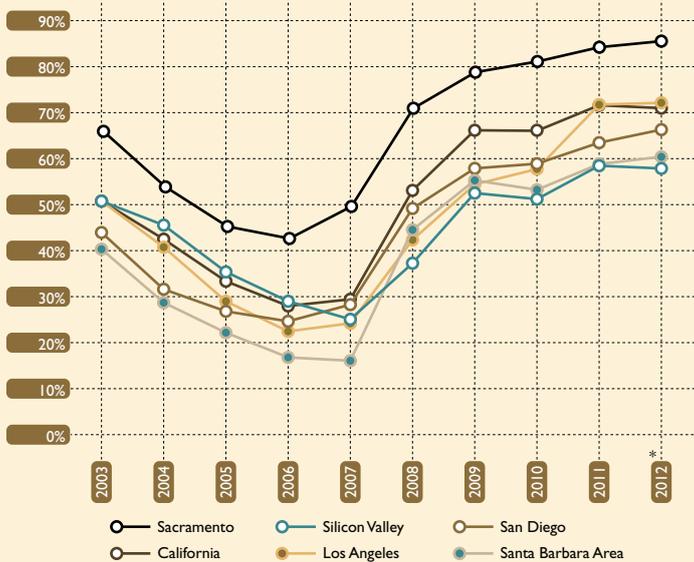


Average rents **reach historic high**, as median household incomes dwindle

\* Estimate based on Quarters 1-3, 2012  
Data Source: Real Facts; United States Census Bureau, American Community Survey  
Analysis: Collaborative Economics

### Home Affordability

Percentage of Potential First-Time Homebuyers That Can Afford to Purchase a Median-Priced Home  
Silicon Valley and Other California Regions



Home affordability falls for potential first-time home buyers in Silicon Valley

\* Estimate based on Quarters 1-2, 2012  
Data Source: California Association of Realtors, Home Affordability Index; RAND California Statistics  
Analysis: Collaborative Economics

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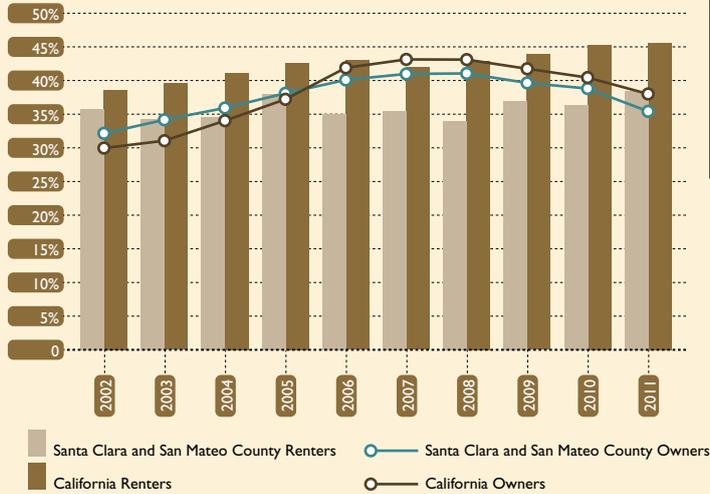
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## Housing Costs

Percent of Households with Housing Costs Greater than 35% of Income Renters and Owners

Santa Clara & San Mateo Counties, California



Housing cost burden **ease** for Silicon Valley homeowners but **increase** for renters in the region

Data Source: U.S. Census Bureau, American Community Survey  
Analysis: Collaborative Economics

## Housing Starts

San Jose MSA

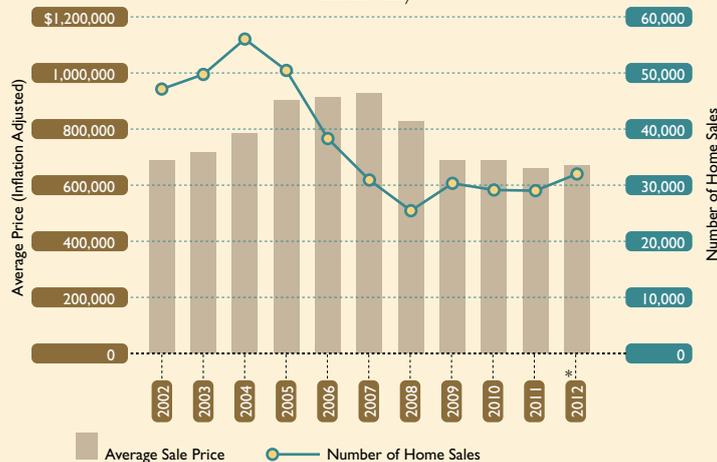
	2006	2007	2008	2009	2010	2011*	'10-'11 % change
Single Family	2,189	2,030	1,288	707	864	904	+5%
Multi Family	4,052	2,553	2,417	450	3,706	1,749	-53%
<b>Total</b>	<b>6,241</b>	<b>4,583</b>	<b>3,705</b>	<b>1,157</b>	<b>4,570</b>	<b>2,653</b>	<b>-42%</b>

\*Data is through November 2011  
Data Source: Construction Industry Research Board  
Analysis: Collaborative Economics

## Trends in Home Sales

Average Sale Price and Number of Home Sales

Silicon Valley

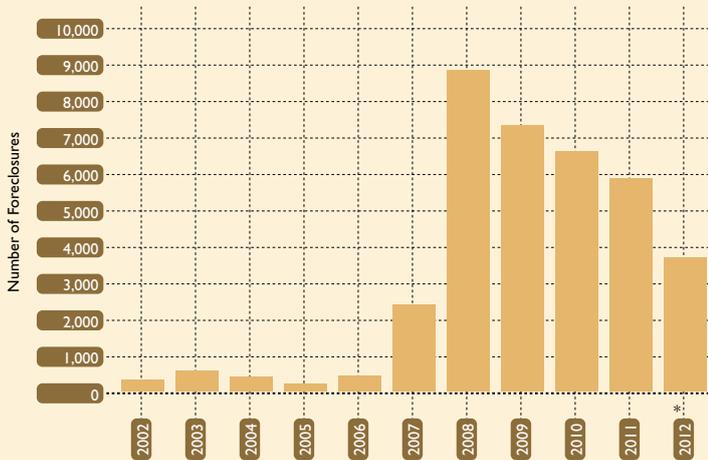


Average home prices **remain relatively stable** as annual home sales **edge up**

\*Average sale price and forecasted annual home sales are based on first half 2012 figures.  
Data Source: RAND California Statistics  
Analysis: Collaborative Economics

## Residential Foreclosure Activity

Annual Number of Foreclosures  
Silicon Valley



Annual residential foreclosures have tapered off

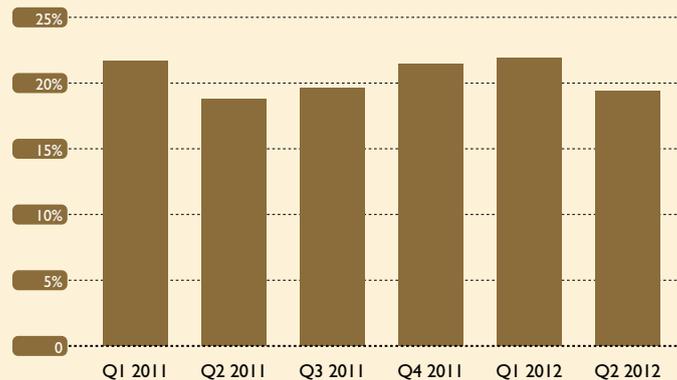
\*Annual residential foreclosures are forecasted based on first half 2012 figures.  
Data Source: RAND California Statistics  
Analysis: Collaborative Economics

### Number of Foreclosures

	January – June	2008	2012	% Change
Silicon Valley		<b>3,690</b>	<b>1,841</b>	<b>-50%</b>
California		<b>111,718</b>	<b>51,424</b>	<b>-54%</b>

## Underwater Mortgages

Percentage of Silicon Valley Home Mortgages that Exceed Home Worth  
Silicon Valley



Data Source: Zillow Real Estate Research, Negative Equity Report  
Analysis: Collaborative Economics

Underwater mortgages in Silicon Valley have **fluctuated** over the past year and a half, once again **falling sharply** in Q2 2012

### Underwater Mortgages

	Q2 2012
Silicon Valley	<b>19%</b>
California	<b>37%</b>
U.S.	<b>31%</b>

### Underwater Mortgage Rates in Top and Bottom Three Cities in Silicon Valley

January – June	Q1 2011	Q2 2012	% Change
Newark	<b>37%</b>	<b>37%</b>	<b>0%</b>
Gilroy	<b>41%</b>	<b>35%</b>	<b>-6%</b>
Union City	<b>26%</b>	<b>25%</b>	<b>-1%</b>
Cupertino	<b>5%</b>	<b>4%</b>	<b>-2%</b>
Saratoga	<b>4%</b>	<b>3%</b>	<b>-2%</b>
Los Altos	<b>3%</b>	<b>2%</b>	<b>-1%</b>

Note: Rank based on Q2 2012 figures

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*City revenue increased slightly in 2011 for the first time since the recession.*

## WHY IS THIS IMPORTANT?

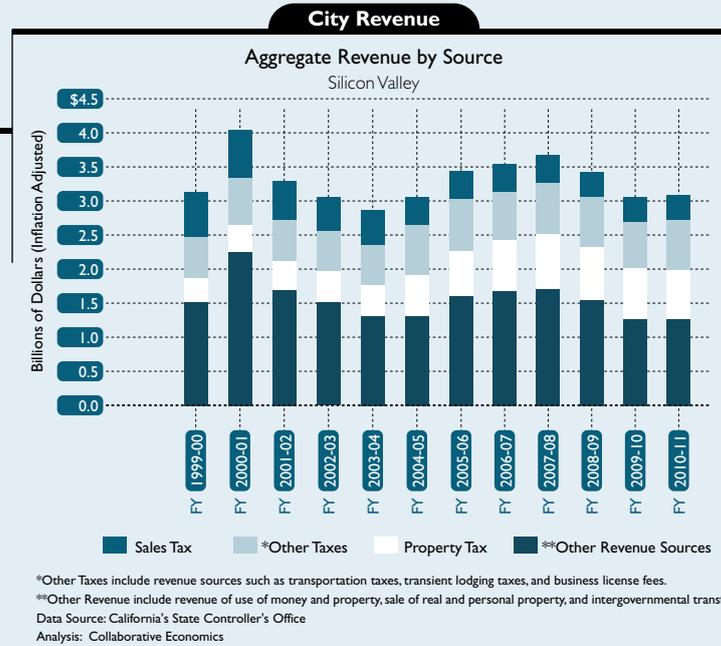
Many factors influence local government's ability to govern effectively, including the availability and management of resources. To maintain service levels and respond to a changing environment, local government revenue must be reliable.

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?

City revenues increased by one percent in Silicon Valley in 2010-11, reversing the downward trend seen in the region since the 2008 recession. Other taxes, including transportation and lodging taxes, increased by ten percent since 2009-10 and currently account for 24 percent of all city revenue. Property tax revenue was down by five percent in 2010-11, though it still accounted for 23 percent of all city revenue in Silicon Valley. Since property tax collection lags the real estate market, the full effects of the decline in the real estate market will become increasingly apparent in lower property tax revenues. Sales tax revenue has declined steadily in the region over the last decade, falling 37 percent since 2001. This trend was reversed in the last year, with sales tax revenue increasing by three percent in 2010-11. In each of the two counties, voters approved tax measures on the November 2012 ballots, a 1/8 cent sales tax increase in Santa Clara County and a 1/2 cent sales tax increase in San Mateo County for the next ten years.

City revenue in Silicon Valley **increased slightly** in 2010-2011



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Revenue 60-61 **GOV**

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continued from page 11

Today, three quarters of the region's jobs are within half a mile of a freeway off-ramp. Less than a quarter are within half a mile of the region's 88 rail stations (a geography that includes nearly every major downtown in the South and East Bay. Even when including frequent bus service in the analysis, only half of jobs are accessible with transit. Fewer are accessible from transit in leading industries like IT and biotech (35 and 27 percent respectively).<sup>14</sup>

What are the key trends?

- Job densities in California are declining, even as residential densities increase.<sup>15</sup>
- Downtowns in San Jose, Oakland and San Francisco represent a declining share of regional employment.<sup>16</sup>
- The region's transit core in all cities is declining in employment
- The region's transit core in all cities is declining in employment share. Priority Development Areas (PDAs), locally identified places that include minimal regional transit nodes, declined from 53 percent of regional jobs in 1990, to 48 percent in 2010.<sup>17</sup>
- Less than 50 percent of all jobs are currently even accessible from regional rail or high frequency bus or light rail stations. (Figure 1)
- Transit ridership began to decline in 1960 from over 15 percent of commute trips to approximately 9 percent in 1990. Since then it has increased only slightly to less than 11 percent of all commute trips.<sup>18</sup>
- While just over one quarter of all office building square footage (28 percent) is within a half-mile of rail, well over 80 percent is within a few miles. (Figure 2)
- Many jobs have located adjacent to highways, many of which were built in recent decades with local or regional funds and support. The millions of square feet of office development bordering 101 or in office parks like Bishop Ranch is evidence of this phenomenon.

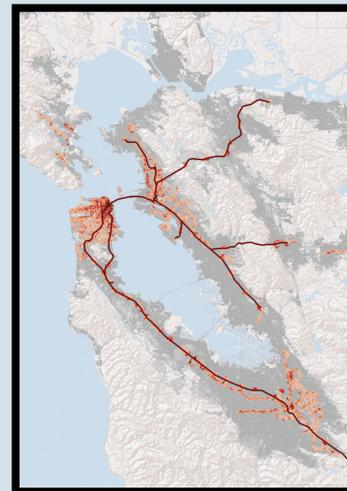
Yet face-to-face interaction that can occur naturally in denser work settings is increasingly recognized as important for the process of innovation.<sup>19</sup> And densities are much greater in traditional downtown areas near transit than in newer less transit-oriented job centers and office parks.

As the Bay Area's embraces transit-oriented development (TOD), it is increasingly clear that TOD needs more jobs near transit, not just homes. Studies show that people are most likely to take transit to work if their job is immediately accessible from transit, even if they live further away from transit.<sup>20</sup>

Further, we design our transportation systems to meet the peak demand. The "peak" takes place at the commute period in the morning or afternoon. If jobs are scattered and too few people take transit to work, there is pressure to add additional lanes on highways and arterials to accommodate the increased demand. Adding new roadway capacity and lanes is costly and has proven counterproductive. Numerous studies show that increased road capacity leads to more people initially driving on the new lanes which over time results actually in more congestion on the overall system, not less.<sup>21</sup>

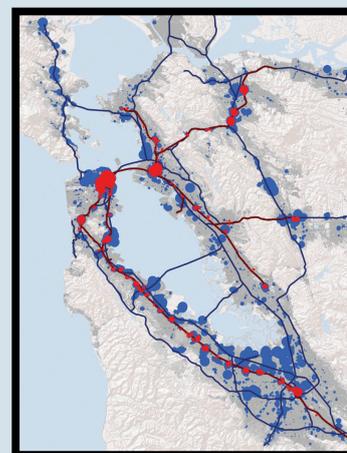
**Regional governance takeaway:** *The location of jobs is a matter of regional concern given its impact on congestion, air quality and the long-term economic vitality. Yet the region has attempted few mechanisms to encourage employers to locate near transit or existing downtowns or to bring new transit to existing dense or densifying job centers. Taking on this issue will require cooperation among cities, transit operators and regional agencies, as well as leadership from public and private employers.*

Figure 1 : Jobs Near Transit



Less than half of regional jobs are within a half mile of regional transit and a quarter mile of frequent local transit.

Figure 2 : Office Space Near Transit



Although only 28% of the region's office space is within a half mile of rail, most jobs are at most a few miles from rail stations.

Maps produced by Mark Shorett for SPUR

<sup>14</sup> Reconnecting America, unpublished research as part of "Moving to Work" analysis.

<sup>15</sup> Kolko, Jed. (2011). *Making the Most of Transit: Density, Employment Growth, and Ridership around New Stations*. Available at: [http://www.ppic.org/content/pubs/report/R\\_211JKR.pdf](http://www.ppic.org/content/pubs/report/R_211JKR.pdf)

<sup>16</sup> Terplan, Egon (2009). "Job Sprawl in the Megaregion." *Urbanist*.

[http://www.spur.org/publications/library/article/job\\_sprawl\\_megaregion](http://www.spur.org/publications/library/article/job_sprawl_megaregion)

<sup>17</sup> See: OneBayArea, "SCS Alternative Land Use Scenarios."

<sup>18</sup> Source: US Census Bureau and Metropolitan Transportation Commission, [http://www.mtc.ca.gov/maps\\_and\\_data/datamart/census/dp234/Means19602000.htm](http://www.mtc.ca.gov/maps_and_data/datamart/census/dp234/Means19602000.htm)

<sup>19</sup> See: <http://www.spur.org/urbanwork>

<sup>20</sup> See: Kolko, Jed. (2011) [http://www.ppic.org/content/pubs/report/r\\_211jkr.pdf](http://www.ppic.org/content/pubs/report/r_211jkr.pdf) and Barnes, Gary. (2005) <http://nctr.usf.edu/jpt/pdf/JPT%208-2%20Barnes.pdf>

<sup>21</sup> For further research on induced demand, see Todd Litman's work at the Victoria Transport Policy Institute, including:

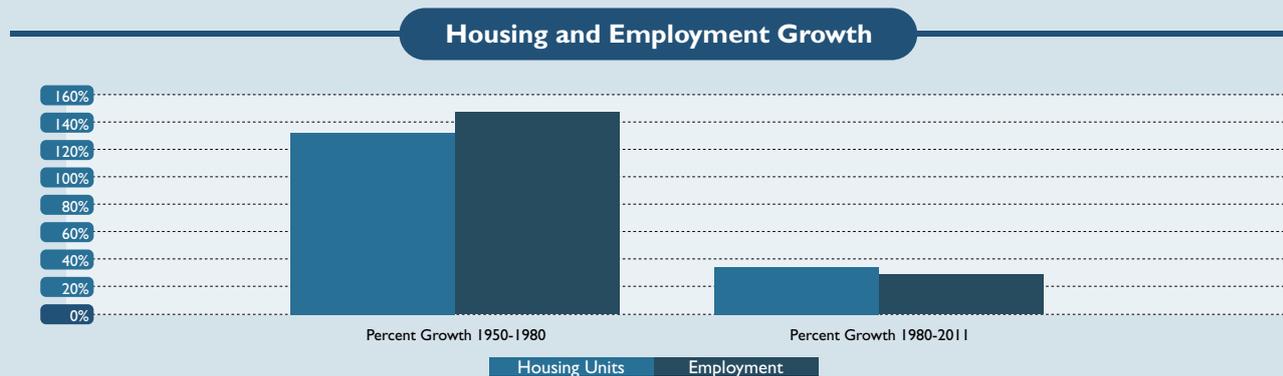
**Issue 2: The region needs more overall housing production to remain economically competitive while many jurisdictions choose to limit approval of new housing with little consideration to the regional economic, fiscal and travel consequences.**

Over the past several decades housing prices have continued to escalate, making it harder for new people to enter the housing market and putting upward pressure on wages. As such, housing costs act as a drag on overall economic growth as employers must pay higher wages to keep employees, even if their productivity does not match the wage levels. The recent reset of housing prices has not resulted in prices being affordable to the average housing seeker in many places. Just 35 percent of Bay Area residents could afford a house priced at the region’s median level at the end of 2012.<sup>22</sup>

This was not always the case in the Bay Area.

From 1950 to 1980, the region added 1.1 million housing units, or about 40,000 per year. Homes were widely available and affordable to the burgeoning middle class. Then, from 1980 to 2010, growth slowed to about 24,000 units per year.

Job growth also slowed after 1980 even as home prices continued to increase dramatically. Prior to 1980, the region added 50,000 jobs per year. Since 1980, that figure dropped in half.



Source: SPUR analysis and mapping, data from ABAG

How does this relate to regional planning and governance?

Quite simply, there is a mismatch between where the homes are built and where the jobs are located. In recent years, housing prices dropped at the region’s edges and in communities that are most supportive of new housing (particularly in Eastern Contra Costa and Solano Counties). In contrast, housing prices in San Francisco and the Peninsula are generally even higher today in these strong job market areas where there was little new supply in housing over many years.

So the issue is not only one of the region not adding enough new homes to support a growing economy, but also the fact that too few homes were built where job growth was strongest. The irony is that the places with the strongest job growth are historically least supportive of significant new housing production.

The one system designed to sort out how much housing each jurisdiction should approve (called the “Regional Housing Needs Allocation” process) is often contentious in local politics. Some communities have voted to leave ABAG, the regional agency that administers it.<sup>23</sup> At times, jurisdictions are taken to court for failing to fulfill their commitments under RHNA and State Housing Law, including the City of Pleasanton for having a housing cap and Menlo Park for not having updated its housing element in twenty years.<sup>24</sup>

**Regional governance takeaway:** Home rule gives each community the right to say no – or yes. But the lack of effective regional governance around housing means we get too few homes overall or where they are most needed, and homes have little relationship to job centers. We get “drive until you qualify” and megacommutes for those seeking affordably priced homes. And we get boom and bust residential prices that drag down whole communities when the cycle shifts.

<sup>5</sup> California Board of Equalization

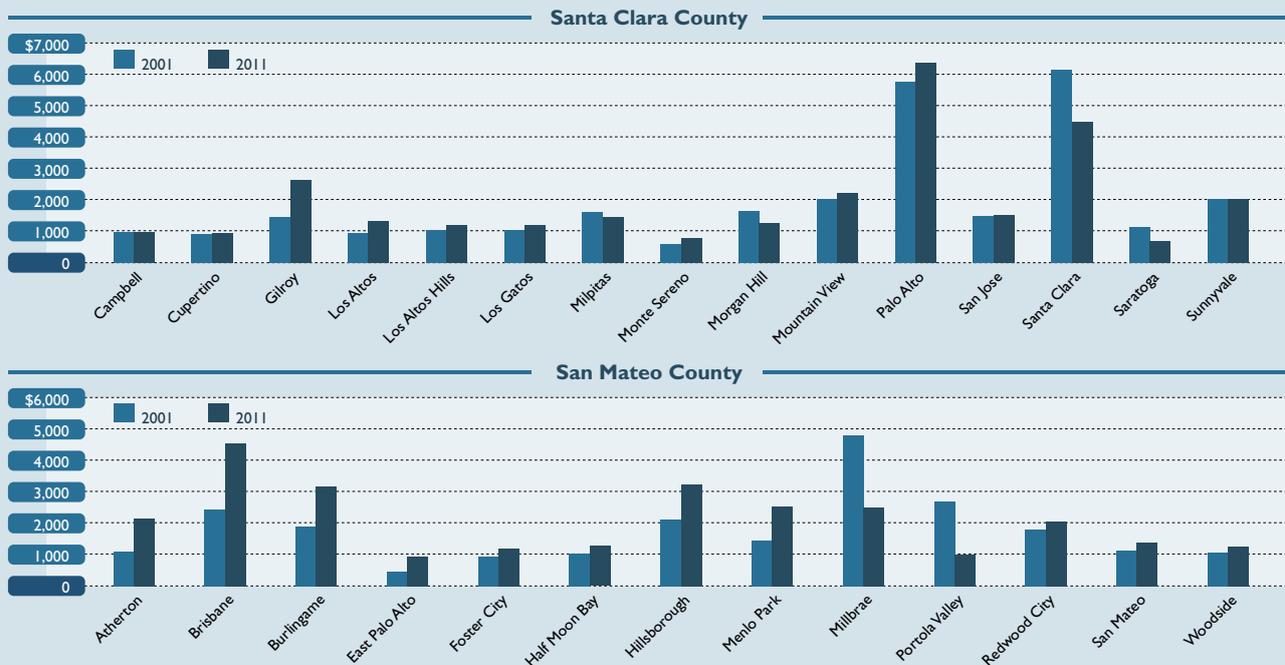
**Issue 3: Fiscal inequity among cities results in competition for taxes, primarily from sales and commercial property and disparity in services.**

Local government reaps more fiscal benefits from job growth than housing production. Many cities within Silicon Valley promote and attract commercial development and at times do not permit new housing in or near job districts. This restricts the market from providing the housing that is demanded.

When one community in Silicon Valley does not add housing to match nearby job growth, the homes do go somewhere. As noted earlier, often this is further away or in the faster growing cities like San Jose.

But even with evidence that higher density residential development brings in significant revenue,<sup>25</sup> housing does not provide as much in funding to local government as jobs or retail uses and local residents expect more in local services than do workers. As a result, housing-rich cities like San Jose are more cash-strapped than some of their neighbors. For example, Palo Alto has about two and a half jobs per employed resident while San Jose has 0.85 jobs per employed residents. Yet both cities are a part of the same labor market and essentially one housing market. The fiscal outcome of the location of jobs relative to homes is quite stark.

**Total Revenues per Capita**



Source: SPUR analysis of Board of Equalization and US Census data, data courtesy of Collaborative Economics

Sales taxes also reflect divergence among cities. Sales taxes per capita in 2011 were \$25 in Redwood City, \$102 in Fremont, \$130 in Sunnyvale and \$250 in Menlo Park. Cities that successfully pursue increasing amounts of retail development – particularly high-end retail – capture a larger share of retail sales relative to their neighbors. This approach has been long dubbed “the fiscalization of land use” as cities often make land use decisions to maximize revenues (more retail that brings revenues and less housing that has demand for local services). This approach also fails to acknowledge negative externalities such as the traffic and road impacts of a retail development in one city on a neighboring jurisdiction.

Differences among tax revenues also has a particular impact on education funding since the cities that add housing are also the ones with greater demand for schools. Fees stacked on top of new housing development to pay for such services can also make it more difficult to build housing in the new areas, leading to less overall housing production, a key regional issue.

**Regional governance takeaway:** *The winner-take-all approach to local tax revenues results in fiscal and service disparity among cities. It also undermines regional or subregional cooperation and can lead to inefficient land use outcomes, particularly the oversupply of retail in auto-oriented settings. Fees levied to maintain local services increases housing costs and further harms development opportunities in places where additional development might be most needed.*

<sup>25</sup> Belzer, Dena. Data from Grand Boulevard Initiative. Presentation from November 28, 2012. Available at: <http://www.spur.org/files/event-attachments/Grand%20Boulevard.Dena%20Belzer.pdf>

**Issue 4: The region's 27 different transit agencies are uncoordinated and riders have a difficult time navigating this fragmented system.**

The Bay Area has an extensive transit system with 3,200 buses, 1,200 rail cars, and 1,200 miles of rail.<sup>26</sup> Each day, the region's transit operators carry 1.4 million trips, compared with 17 million daily automobile trips in the region.

Yet the Bay Area's transit system is more fragmented than transit systems in similarly sized metropolitan areas around the country. The "system" is really 27 separate and poorly coordinated agencies, leading to inefficient duplication of some services and fragmentation across jurisdictional lines. Of those 27 systems, seven (BART, Muni, Caltrain, SamTrans, AC Transit, Golden Gate and VTA) account for 93 percent of all riders with the largest operator being Muni.

**Ridership Fragmentation**

Region	Total Ridership (2008) <sup>27</sup>	Total Operators <sup>28</sup>	Largest Name Operator	Largest Operator <sup>29</sup>	Regional Cost per Rider
Bay Area	484,000,000	28	SFMTA	47%	\$.95
Philadelphia	358,000,000	5	SEPTA	95%	.58
Washington, DC	476,000,000	12	WMATA	89%	.53
Chicago	628,000,000	15	CTA	84%	.58
New York City	4,077,000,000	37	MTA	82%	.49
Los Angeles	640,000,000	20	LACTA	74%	.64
Seattle	189,000,000	9	King County Metro	65%	1.03

Source: SPUR analysis and mapping, data from MTC

Compared to the transit systems of other metropolitan areas the Bay Area's largest operator carries a far smaller share of passengers. In other regions with similar yearly ridership, the biggest operator carries upwards of 85 percent of users. The costs per rider of the seven biggest Bay Area operators is nearly double that of similar regions.

This will be an increasingly critical issue given the growing fiscal crisis in transit, with agencies across the country facing quickly increasing capital and operating costs. The Bay Area operators are projected to face a combined \$17 billion capital deficit and an \$8 billion operating deficit by 2035.<sup>30</sup> Some agencies, with sizable and stable sales-tax funding schemes, are better prepared to weather this storm than others, who rely on government transfers or farebox revenues for an outsize portion of their budgets. Every budget cycle, Caltrain in particular is vulnerable to the vagaries of the financial situations of its three voluntarily contributing agencies, which supply about a third of the commuter service's operating funds.<sup>31</sup> The service lacks a dedicated source of revenue such as from sales taxes.

Riders have trouble navigating the region's fragmented system with uncoordinated schedules, distinct fares. Despite a lot of transit, the fragmentation of the Bay Area's system makes it much harder for riders to navigate and results in less ridership.

<sup>26</sup> MTC TSP 2/13/12 Meeting Packet, Slide 34

<sup>27</sup> TSP Findings, April 11, 2012, page 10.

<sup>28</sup> TSP Findings, April 11, 2012, page 10.

<sup>29</sup> NTD Reports, 2008.

<sup>30</sup> See Slide 3: [http://apps.mtc.ca.gov/meeting\\_packet\\_documents/agenda\\_1615/3-b\\_Select\\_Comm\\_Feb\\_Presentation.pdf](http://apps.mtc.ca.gov/meeting_packet_documents/agenda_1615/3-b_Select_Comm_Feb_Presentation.pdf)

<sup>31</sup> This portion of Caltrain funding comes from Santa Clara County's VTA, San Mateo's SamTrans and San Francisco's MTA.

Forty-nine percent of Bay Area commuters cross a county line to get to work,<sup>32</sup> but potential long-distance transit commuters face a number of barriers in the Bay Area:

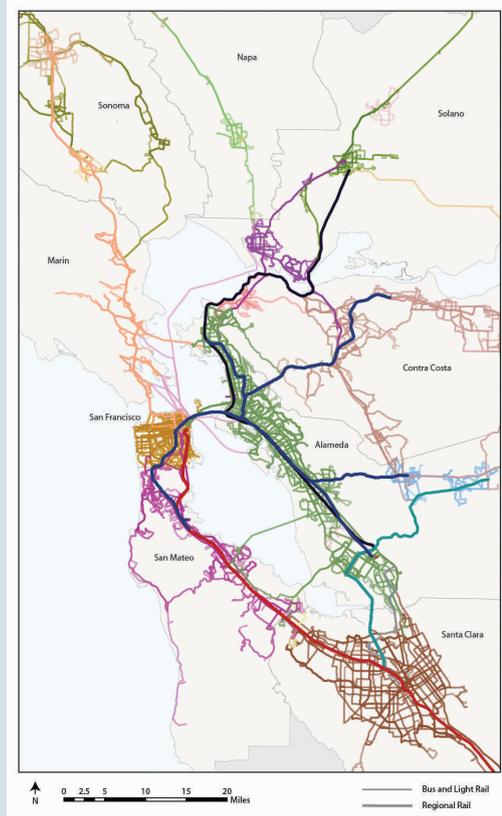
- *Uncoordinated schedules: Arrivals and departures at cross-system transfer stations are not well coordinated, often leading to longer-than-necessary wait times.*
- *Inconsistent fare policies: Rides of similar distances can have dramatically different prices. For example, the 40-mile ride from Fremont to San Francisco on BART costs \$5.65. The similar-length ride from Oakland to Palo Alto, on BART and Caltrain, costs \$9.80, or almost twice as much.<sup>33</sup>*
- *Disparate information: Though public-sector efforts like 511.org and private-sector technology solutions like Google Maps have made trip planning easier in recent years, riders who want to navigate or find service information for multiple systems often must go to several websites or subscribe to several alerts.*
- *Varied customer experiences: Each system has different route-naming conventions, map and signage styles, and brands.*

A technology worker's theoretical transit commute from San Francisco to the SR-237 corridor, the heart of the Silicon Valley, illustrates how critical these problems can be. The fastest such trip can include transfers between four different transit systems. Given the issues outlined above, it is easy to understand why many workers drive alone to work and why technology companies feel the need to provide private commuter shuttles to try to minimize such behavior.

Additional issues rooted in the system's fragmentation, like the complicated and expensive trip between Caltrain and the San Francisco Airport on BART, add to these issues.

**Regional governance takeaway:** *The Bay Area is far less easy to navigate as a transit rider than comparable regions nationally. But this is not the result of insufficient transit. It is because the system lacks unified financing, planning, fares or mapping, all changes that are possible with different governance.*

## The Bay Area's fragmented transit network



Source: SPUR analysis and mapping, data from MTC

The experience of traversing the Bay Area on transit is limited by the fragmented structure of 27 separate transit operators. Although half of commuters cross a county boundary for work each day, transit fares, schedules and maps are not coordinated across operators. For example, taking a bus between Santa Clara and San Mateo Counties along El Camino Real requires two fares as well as a wait and a transfer in Palo Alto just because of the boundary between two different transit operators.

<sup>32</sup> Bay Area Council Economic Institute. The Bay Area: A Regional Economic Assessment. October 2012. Page 23.

<sup>33</sup> Rockridge to Millbrae plus Millbrae to Palo Alto: \$9.80. Fremont to Montgomery Street: \$5.65. Fare sources: [www.bart.gov](http://www.bart.gov) (retrieved 11/16/12) and [www.caltrain.org](http://www.caltrain.org) (retrieved 11/16/12).

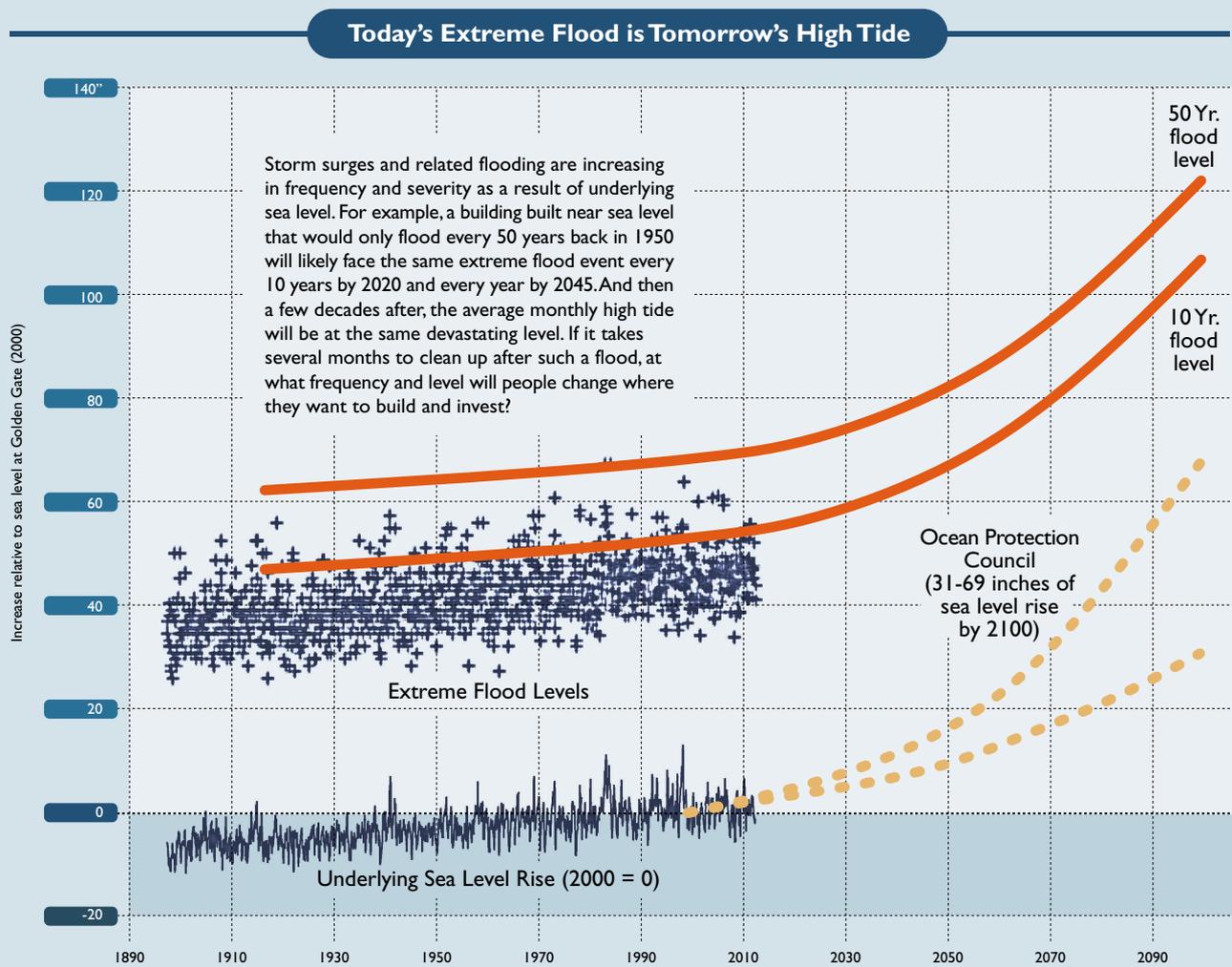
### Issue 5: Climate change's most direct impact on the Bay Area will be from flooding and sea level rise.

For the Bay Area, climate change will bring rising tides and seas as well as more frequent major storms that will produce significant flooding.

Sea levels are predicted to rise, no matter what we do to curb emissions. Some experts estimate that sea levels will rise 16 inches by 2050 and 55 inches by 2100, while others peg increases at 6 to 9 meters by the end of the century. Measurements from the Golden Gate show that rising waters have already been a trend for 50 to 100 years.

Sea level rise is compounded by a reality of more frequent storms. More frequent storms means additional rains. Given that 40 percent of California's land drains into the San Francisco Bay, storm floods last longer here than in higher elevation places. With a major storm during high tide, the region's natural water armaments will not be enough to hold rushing waters away from thousands of homes and jobs as well as major pieces of critical infrastructure.

In short, the 50-year flood could become a yearly event in 2050.



Sea level rise plus flooding will have an outside impact on the region, given the low-lying and water-adjacent nature of many Bay Area communities. About 330 square miles of land around the Bay is vulnerable to the rates of sea-level rise outlined above over the next half-century. Dozens of leading Silicon Valley firms – from Facebook to Oracle to Cisco are within this area, along with 270,000 residents. Sea-level rise could directly impact as much as \$62 billion in development.



## A possible future

The Bay Area has responded to big threats with new regional governance in the past. We can do so again. In this section of the Special Analysis, we explore a possible regional future, based on creating new governance systems to respond to the challenges of the day. Each idea is grounded in a governance solution found elsewhere. Here is what we might accomplish:

### 1. We focus employment growth near transit in existing downtowns and employment areas.

We could look to examples in the Washington D.C. region for some inspiration in putting jobs near transit. For example, the Rosslyn/Ballston corridor in Arlington County focused the vast majority of development adjacent to their rail system, with office uses immediately surrounding the rail station. Nearly 40 percent of residents and employees on this suburban corridor take transit to work, higher than residents of San Francisco.<sup>36</sup> At the same time, the upzoning around rail allowed existing single-family residential neighborhoods to remain untouched. Since 1970, this transit corridor grew from 5.5 million to 20.8 million square feet of office space – adding more new office space than exists in downtown Oakland.<sup>37</sup> This concentration continues since from 2000-2010, 70 percent of all growth in Arlington County was in the 1.5 square miles directly adjacent to the rail stations on the corridor.<sup>38</sup> Other parts of the D.C. region also have significant office development around suburban rail stations. The region was aided by the Federal government as an employer and by having a single transit operator with significant land holdings around stations and a financial incentive for major development.<sup>39</sup>

Much of what took place in the DC suburbs did not require new regional governance, but it did require some tradeoffs between more growth near transit and less further from it. One easy solution for the Bay Area transportation agencies (at the city, county and regional levels) to commit to not fund road highway expansions to job centers that are not proximate to existing employment areas or transit.

### 2. We build sufficient amount of housing in the right places to support housing for the workforce.

By identifying places for growth, the Bay Area's Sustainable Communities Strategy takes a step in the direction of regional land use planning. But the SCS could go further and require communities to rezone and approve the housing goals in accordance with the regional plans. The Portland region in Oregon has been successfully implementing a version of this type of regional planning whereby local jurisdictions must adopt zoning that meets the region's plan. Portland's regional planning is backed by strong state law and an elected regional body that maintains an urban growth boundary and oversees the planning. Done right, this type of regional planning that requires local compliance is a potential solution for both job sprawl and limited housing production.

### 3. We reduce the fiscal inequities among cities by beginning a sales or property tax sharing program at the County level.

The Bay Area could consider adopting a tax-sharing scheme at the county level, such as within Santa Clara County. Such a system would likely focus on sharing growth in taxes, not redistributing existing taxes. This is a more modest approach than what takes place around Minneapolis and St. Paul. Since 1975, the seven county Twin Cities region has been sharing a portion of its taxes among jurisdictions. 40 percent of the growth in the commercial and industrial tax base across all municipalities across seven counties goes into a regional pool and is then redistributed based on population and the existing tax base. The net result is that nearly two-thirds of households live in areas where they receive more than they put in with some communities like Minneapolis shifting between receiving and contributing.<sup>40</sup> The major benefit though is that the tax sharing reduces competition between jurisdictions for commercial and industrial development as all share in the fiscal benefits of such growth. Ultimately an investment such as a firm expansion happens because of the broader regional economy, not because of some micro-specific local action.

<sup>36</sup> See: [http://www.arlingtonva.us/departments/CPHD/planning/powerpoint/rbpresentation/rbpresentation\\_060107.pdf](http://www.arlingtonva.us/departments/CPHD/planning/powerpoint/rbpresentation/rbpresentation_060107.pdf)

<sup>37</sup> See: [http://www.cushwake.com/cwms4q10/PDF/off\\_oakland\\_4q10.pdf](http://www.cushwake.com/cwms4q10/PDF/off_oakland_4q10.pdf)

<sup>38</sup> See: <http://www.thetransportpolitic.com/2011/02/05/the-interdependence-of-land-use-and-transportation/>

<sup>39</sup> Source: Terplan, Egon. Thriving TOD: What can we learn from mass transit in D.C. suburbs? Available at: [http://www.spur.org/publications/library/article/thriving\\_tod](http://www.spur.org/publications/library/article/thriving_tod)

#### **4. We reduce the fragmentation of transit operators by bringing regional transit operators under one roof.**

In Seattle, Sound Transit is one example of this potential. Formed as a result of an agreement between the three Seattle-area counties and authorization by the Washington state government, the agency plans and manages all regional rail and bus services while each county still runs its own local bus services.<sup>41</sup> Not only has the organizational structure allowed the agency to more effectively press the case for sales tax funding, but it also makes the region's services more cohesive than they might otherwise be. For example the agency maintains a consistent regional visual identity, coordinated schedules, unified fare structure and customer service operations. The Bay Area might go further and pursue a single regional transit operator like Portland, Toronto or New York by merging BART and Caltrain under one agency along with related regional bus systems across the Dumbarton and Bay Bridges.

#### **5. We prepare for the inevitability of sea level rise and flooding by identifying a way to pay for shoreline infrastructure and by deciding on a land use approach to development in potential inundation areas.**

The City of Rotterdam offers a model for an attempt to "climate proof" the city through floatable buildings and floodable parks. In general, the Dutch may be the most prepared nation on Earth for rising seas, their governance solution involves significant Federal investment in coastal protection. Other parts of the United States, such as New York City and Florida, are preparing for sea level rise and adapting to climate change. The Southeast Florida Regional Climate Change Compact is working across four counties on an action plan that would include "Strategies for the coordinated regional preparation for and adaptation to a rapidly changing global environment based upon regional mapping of projected sea-level rise."<sup>42</sup> But sea level rise is perhaps one area where the Bay Area need not find a best practice model to adopt. Instead, we have already begun these conversations ourselves across existing governance institutions and will have to quickly decide on who should have the authority to begin making the tough decisions about development in inundation zones.

<sup>41</sup> Sound Transit has successfully passed two sales tax measures, enabling it to build two light rail lines, two regional rail lines, and 26 express bus lines, with an additional 36 miles of light rail and 65 percent more commuter rail capacity on the way. Sound Transit. "Regional transit history 2008." Retrieved from <http://www.soundtransit.org/Projects-and-Plans/System-planning/2008.xml> on August 10 2012. And Sound Transit. Sound Transit 2: A Mass Transit Guide. July 2008. Page 27.

<sup>42</sup> See: <http://www.broward.org/NaturalResources/ClimateChange/Documents/CompactFinal.pdf>

## Conclusion

Regionalism in the Bay Area has a long history of partial successes. Too often we see ourselves more as residents of a single communities or as belonging mostly to a subregion (South Bay, East Bay) and not as part of the whole. What is sometimes missing is the sense of interconnectedness or an understanding that what happens in one part of the region matters in a big way to another part.

This may be changing and therein lies the opportunity.

Silicon Valley is arguably no longer a geography that ends at the San Francisco county border. Important parts of the labor force reside in San Francisco and commute south just as growing firms and important parts of the technology sector's value chain take root in buildings near transit in San Francisco and parts of the East Bay traditionally home to other industries. The geographic changes further connect us economically.

At the same time, major events like Hurricane Sandy are a wakeup call to leaders worldwide of the vulnerabilities of all coastal regions. Flooding cuts across city borders and can damage lifeline systems like roads, transit, energy and drinking water.

But if we acknowledge that we are more interconnected and need a different governance system, what are the best options going forward? We identified individual actions above as part of a possible future. Ultimately, strengthening our regional governance is more about degrees of regionalism. As a conclusion, we offer the following three options:

**Option 1:** Strengthen the governance of existing agencies but maintain them as single purpose institutions. This is the approach of numerous water agencies, which have overcome their respective organizational silos and are now planning to interconnect their systems share water during times of uneven supply.<sup>43</sup> Other examples could be to give MTC more authority to price the region's freeways or provide BCDC with more land use authority related to responding to sea level rise. The pro of this option is it does not result in any new bureaucracies. The con is that it perpetuates a set of institutions whose focus is narrow by design. Giving these institutions more authority will not suddenly result in them having a comprehensive approach to problem solving.

**Option 2:** Establish one or more new regional entities with new powers to respond to today's pressing problems. This could include establishing a new entity to plan, fund and make choices about development that will be impacted by sea level rise and climate change-related flooding. It could also involve consolidating regional transit operators and establishing a new regionwide system of rail and transbay bus travel. The pro of this approach is that it would result in the design of an agency targeted towards key challenges of today. One con is that it could result in increased fragmentation by creating an additional institution. A second con is that this approach could perpetuate the problem of a single purpose regional entity.

**Option 3:** Move towards a comprehensive multi-issue regional government entity. This comprehensive approach is what exists in part in Portland and Minneapolis. For example, Portland's Metro is a directly elected regional government that does long-range planning and even manages the region's garbage and recycling program. The Twin Cities tax sharing scheme is a part of a comprehensive regional agency that also operates the region's bus system, collects and treats wastewater, manages regional parks and conducts comprehensive long-range planning. The pro of this approach is its comprehensive approach to challenges. The con is that absent state legislation, the powers of such an entity might be relatively weak and the political opposition strong.

To achieve any of these options will require turning more of our local residents into Bay Area citizens who recognize our shared fate and interests. Regionalism is not all or nothing and can involve incremental changes. But only keeping what we have and assuming it will serve us for the future is no longer a viable option. Our needs are more interconnected now. Our governance should reflect that.

<sup>43</sup> See: <http://bairwmp.org/>

## FRONT PAGE STATISTICS

### Area

Data are from 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. Data is derived from Population Estimates, 2000 Census Population and Housing, 1990 Census and Population and Housing, Small Area Income and Poverty Estimate, County Business Patterns, 1997 Economic Census, Minority-and Women-Owned Business, Building Permits, Consolidated Federal Funds Report, Census of Governments. Scotts Valley data is from the Scotts Valley Chamber of Commerce.

### Population

Data for the Silicon Valley population come from the E-I: 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 2012.

### Jobs

Silicon Valley employment data are provided by the California Employment Development Department and are from Joint Venture: Silicon Valley Network's unique data set. The data set counts jobs in the region and uses data from the Quarterly Census of Wages and Employment program that produces a comprehensive tabulation of employment and wage information for workers covered by State unemployment insurance (UI) laws and Federal workers covered by the Unemployment Compensation for Federal Employees (UCFE) program. Employment data exclude members of the armed forces, the self-employed, proprietors, domestic workers, unpaid family workers, and railroad workers covered by the railroad unemployment insurance system. Covered workers may live outside of the Silicon Valley region. Multiple jobholders (i.e., individuals who hold more than one job) may be counted more than once. All industries are included in the major areas of economic activity. Figures for Quarter 2 2011 and 2012 are preliminary-revised. Data is for Santa Clara and San Mateo Counties, Scotts Valley, Fremont, Newark, and Union City.

### Average Annual Earnings

Figures were derived from the EDD/Joint Venture Silicon Valley Network data set and are reported for Fiscal Year 2012 (Q3 & Q4 2011, Q1 & Q2 2012). Wages were adjusted for inflation and are reported in first half 2012 dollars using the U.S. city average Consumer Price Index (CPI) of all urban consumers, published by the Bureau of Labor Statistics. Data for Quarter 2 2012 are preliminary-revised. Data is for Santa Clara and San Mateo Counties, Scotts Valley, Fremont, Newark and Union City.

### Foreign Immigration and Domestic Migration

Data are from the E-6: Population Estimates and Components of Change by County - July 1, 2010-2012 reported by the California Department of Finance and are for San Mateo and Santa Clara Counties. Estimates for 2012 are provisional. 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, Adult Educational Attainment, Foreign Born, and Ethnic Composition

Data are for Santa Clara and San Mateo Counties and are derived from the United States Census Bureau, 2011 American Community Survey, 1-year estimates. Data for adult educational attainment are for Santa Clara and San Mateo Counties population 25 years and over, derived from the United States Census Bureau, 2011 American Community Survey, 1-year estimates. Some College includes Some college, less than 1 year of college; Some college, 1 or more years, no degree; Associate's degree.

## PEOPLE

### Talent Flows and Diversity

#### Population Change and Net Migration Flows

Data are from the E-6: Population Estimates and Components of Change by County - July 1, 2010-2012, July 1, 2000-2010 and July 1, 1990-2000 reported by the California Department of Finance and are for San Mateo and Santa Clara Counties. The July 1, 2010-2012 population estimates includes revised July 2010 and July 2011 estimates. Estimates for 2012 are provisional. 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.

#### Age Distribution

Data for age distribution for Santa Clara and San Mateo Counties and are derived from the United States Census Bureau, 2011 American Community Survey.

#### Educational Attainment

Data for adult educational attainment are for Santa Clara and San Mateo Counties and are derived from the United States Census Bureau, 2011 American Community Survey. Data reflects the educational attainment of the population 25 years and over whose highest degree received was either a bachelor's degree or a graduate degree. Multiple and Other includes American Indian and Alaska Native Alone, Native Hawaiian and Other Pacific Islander Alone, Some Other Race Alone, and Two or More Races.

#### Total Science & Engineering Degrees Conferred

State and regional data for 1995-2010 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. 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, citizenship, and level of degree (bachelors, masters or doctorate).

#### International Talent

Data for international talent provided by the United States Census Bureau, 2000 Decennial Census and 2011 American Community Survey Public Use Microdata Samples (PUMS). The Science & Engineering (S&E) category is comprised of workers in the following occupations: Computer, Physical Engineers, Design, Biological, Mathematics, and Aerospace Engineers & Scientists, Design includes Designers and Artists & Related Workers. Both were added to the S&E occupations to try to capture the employment in Graphic Designers and Multi-Media Artists & Animators. According to the U.S. Bureau of Labor Statistics Occupation Employment Statistics (May 2009), both occupations represent almost 60 percent of employment in both Designers and Artists & Related Workers. Data includes all employed, at work individuals in San Mateo and Santa Clara Counties with a bachelor's degree or higher. Foreign-born does not include individuals from U.S. territories. Science and engineering industries are based on U.S. Census Bureau Standard Occupational Classification system. This classification system was updated in 2010.

## ECONOMY

### Employment

#### Change in Residential Employment; Total Employed Residents by Month

Silicon Valley (San Mateo and Santa Clara Counties), California and San Francisco data are from the Bureau of Labor Statistics, Local Area Unemployment Statistics. Data is not seasonally adjusted. December data is preliminary. National employment data is from Bureau of Labor Statistics, Current Population Survey. Data is not seasonally adjusted. Residential employment is measured on a place-of-residence basis and includes the civilian noninstitutional population 16 years of age and over. Employed persons are those who did any work at all for pay or profit in the reference week or worked 15 hours or more without pay in a family business or farm, plus those not working who had a job from which they were temporarily absent, whether or not paid, for such reasons as labor-management dispute, illness, or vacation. November and December data are from the State of California Employment Development Department.

#### Quarterly Job Growth; Silicon Valley Major Areas of Economic Activity

Silicon Valley employment data are provided by the California Employment Development Department and are from Joint Venture: Silicon Valley Network's unique data set. The data set counts jobs in the region and uses data from the Quarterly Census of Wages and Employment program that produces a comprehensive tabulation of employment and wage information for workers covered by State unemployment insurance (UI) laws and Federal workers covered by the Unemployment Compensation for Federal Employees (UCFE) program. Employment data exclude members of the armed forces, the self-employed, proprietors, domestic workers, unpaid family workers, and railroad workers covered by the railroad unemployment insurance system. Covered workers may live outside of the Silicon Valley region. Multiple jobholders (i.e., individuals who hold more than one job) may be counted more than once. All industries are included in the major areas of economic activity. Figures for Quarter 2 2011 and 2012 are preliminary-revised. Data is for Santa Clara and San Mateo Counties, Scotts Valley, Fremont, Newark, and Union City.

#### Economic Impact of Hospitals

Santa Clara Hospital economic impact data from the AHL Urban & Regional Economics report Economic Impact Analysis, Santa Clara County Hospitals, July 2012. Data are for 2010 operations and are reflected in 2011 dollars.

#### Unemployed Residents' Share of Working Age Population by Race and Ethnicity

Unemployment data by ethnicity is from the U.S. Census Bureau American Community Survey. This data counts the number of unemployed persons, as well estimates the total population in each race, by gender, for age groups ranging from 16 years of age to 75 years of age and older. Ethnicity breakdowns include African American, Asian, Some Other Race, Two or More Race, White (Not Hispanic or Latino), and Hispanic or Latino. Data are limited to the household population and exclude the population living in institutions, college dormitories, and other group quarters. Data is for Santa Clara County in the years 2007 through 2011. Data by race and ethnicity is not available for San Mateo County. Total unemployment and working age population figures are broken down by age and do not equal the sum of the racial and ethnic categories displayed. Ethnicities of small local populations (American Indian and Alaska Native, and Pacific Islander) are not categorized independently by the Census Bureau for Santa Clara County, therefore there may be discrepancy between the total unemployment figures and the sum of ethnic and racial categories included in the chart. Additionally, all unemployment figures include a margin of error.

#### Unemployed Residents' Share of Working Age Population by Educational Attainment

Unemployment data by ethnicity is from the U.S. Census Bureau 2007-2011 American Community Surveys. This data categorizes the number of unemployed persons 25 and over by highest educational degree received. Data are limited to the household population and exclude the population living in institutions, college dormitories, and other group quarters.

#### Science and Engineering Talent by Category

Data for Science & Engineering (S&E) Talent provided by the United States Census Bureau, 2000 Decennial Census and 2011 American Community Survey Public Use Microdata Samples (PUMS). The S&E category is comprised of workers in the following occupations: Computer, Physical Engineers, Design, Biological, Mathematics, and Aerospace Engineers & Scientists, Design includes Designers and Artists & Related Workers. Both were added to the S&E occupations to try to capture the employment in Graphic Designers and Multi-Media Artists & Animators. According to the U.S. Bureau of Labor Statistics Occupation Employment Statistics (May 2009), both occupations represent almost 60 percent of employment in both Designers and Artists & Related Workers.

#### Unemployment Rate

Monthly unemployment rate data are from the Bureau of Labor Statistics, Current Population Statistics (CPS) and the Local Area Unemployment Statistics (LAUS). Data is not seasonally adjusted. Data is for the San Mateo and Santa Clara Counties, California and the United States.

#### Exports - San Jose MSA

Export data and analysis are from Export Nation 2012: San Jose-Sunnyvale-Santa Clara, CA produced by the Metropolitan Policy Program at Brookings.

### Innovation

#### 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. All GDP values are inflation-adjusted and reported in first half 2012 dollars, using consumer price index for the U.S. city average from the Bureau of Labor Statistics. Silicon Valley data is for Santa Clara and San Mateo Counties.

## Patent Registrations; Patent Registrations by Technology Area

Patent data is provided by the U.S. 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 patents filed by residents of Silicon Valley cities. Data are based on Joint Venture's zip code defined region of Silicon Valley. Other Includes: Teaching & Amusement Devices, Transportation/Vehicles, Dispensing & Material Handling, Food, Plant & Animal Husbandry, Furniture & Receptacles, Apparel, Textiles & Body Adornment, Nuclear Technology, Ammunition & Weapons and Superconducting Technology.

## Venture Capital Investment: Total, Share of U.S., by Industry

Data are provided by The MoneyTree™ Report from PricewaterhouseCoopers and the National Venture Capital Association based on data from Thomson Reuters. For the Index of Silicon Valley, only investments in firms located in Silicon Valley, based on Collaborative Economics' ZIP-code defined region, were included. Total 2012 Venture Capital funding level is based on all four quarters of data. Other Includes: Healthcare Services, Electronics/Instrumentation, Financial Services, Business Products & Services, Other and Retailing/Distribution. All values are inflation-adjusted and reported in first half 2012 dollars, using the CPI for the U.S. City Average from the Bureau of Labor Statistics.

## Small Business Innovation and Technology Awards

Data for Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) awards come from the U.S. Small Business Administration. Data include Phase 1 and Phase 2 awards for all agencies and branches for the years 1990-2011. Awards values are inflation adjusted to first half 2012 dollars, using the consumer price index for the U.S. city average from the Bureau of Labor Statistics.

## Entrepreneurship

### Percent of Population Starting a Business

Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Kauffman Index and the U.S. Census Bureau Current Population Survey (CPS). The entrepreneurship index is the percent of individuals (ages twenty to sixty-four) who do not own a business in the first survey month that start a business in the following month with fifteen or more hours worked. The regions displayed in the chart are San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area (MSA), Rest of San Francisco Bay Area (San Francisco-Oakland-Fremont MSA), California and the United States.

### Initial Public Offerings

Data is from Renaissance Capital's IPOhome.com and the location based on corporate address provided by IPOhome.com.

### Mergers & Acquisitions

Data provided by FactSet Mergerstat LLC. Data are based on Joint Venture's ZIP-code-defined region of Silicon Valley. All merger and acquisition deals do not disclose value. All forms of mergers and acquisitions are included in count except for joint ventures.

### Angel Investment

Data from CB Insights, which tracks private companies, their investors, and their acquirers in all industries. Silicon Valley amounts are the total for all of the cities located within the city-defined region. Note that not all angel investment data are disclosed and therefore only disclosed amounts are included in this analysis. Investment amounts are inflation-adjusted and reported in first half 2012 dollars, using the consumer price index for the U.S. city average from the Bureau of Labor Statistics.

### Establishment Churn

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

### Relative Growth of Firms Without Employees; Percentage of Firms without Employees by Industry

Data for firms without employees are from the U.S. Census Bureau, which uses the term 'nonemployers'. The Census defines nonemployers as a business that has no paid employees, has annual business receipts of \$1,000 or more (\$1 or more in the construction industries), and is subject to federal income taxes. Most nonemployers are self-employed individuals operating very small unincorporated businesses, which may or may not be the owner's principal source of income. Silicon Valley represents Santa Clara and San Mateo Counties. The 2009 nonemployer data was released August 15, 2012.

### Relative Growth of Small Business Loans

The data for Small Business Loan Origination comes from Federal Financial Institutions Examination Council (FFIEC), specifically from the Community Reinvestment Act (CRA) data products. Small business loans are defined as those whose original amounts are \$1 million or less and were reported as either loans secured by nonfarm or nonresidential real estate or Commercial and Industrial loans in Part I of the Consolidated Reports of Condition and Income (Schedule RC-C, Part I) or the Thrift Financial Report (Schedule SB). Silicon Valley represents Santa Clara and San Mateo Counties. Loan values within the text are inflation-adjusted and reported in first half 2012 dollars, using the consumer price index for the U.S. city average from the Bureau of Labor Statistics.

## 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. San Mateo county data is through Q3 2012, and Santa Clara county data is through November 1, 2012. Commercial space includes office, R&D industrial and warehouse space. 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 that is presently being offered on the market for sale or lease. Net absorption is the change in occupied space during a given time period. Average asking rents are inflation-adjusted and reported in first-half of 2012 dollars, using the consumer price index for U.S. city average from the Bureau of Labor Statistics.

## Income

### Real per Capita Income

Total personal income and population data are from Economy.com. Income values are inflation-adjusted and reported in first half 2012 dollars, using the consumer price index for the U.S. city average from the Bureau of Labor Statistics. Silicon Valley data includes Santa Clara and San Mateo Counties.

### Per Capita Income by Race & Ethnicity

Data for Distribution of per Capita Income are from the U.S. Census Bureau 2005, 2007 and 2011 American Community Surveys. All income values are inflation-adjusted and reported in first half 2012 dollars, using consumer price index for the U.S. city average from the Bureau of Labor Statistics. 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.

### Median Household Income

Data for Median Household Income are from the U.S. Census Bureau 2011 American Community Survey. All income values are adjusted into first half 2012 U.S. dollars, using consumer price index for the U.S. city average from the Bureau of Labor Statistics. Silicon Valley data includes Santa Clara and San Mateo Counties.

### Distribution of Households by Income Ranges

Data for Distribution of Income and Housing Dynamics are from the U.S. Census Bureau 2011 American Community Survey. Income ranges are in 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. Nonrelatives include any household members not related to the householder by birth, marriage, or adoption. This includes roommates or unmarried partners. Children include a son or daughter by birth, a stepchild, or adopted child of the householder regardless of the child's age or marital status.

### Median Income by Educational Attainment

Data for Median Income by Educational Attainment are from the U.S. Census Bureau 2007-2011 American Community Surveys. All income values are inflation-adjusted and reported in first half 2012 dollars, using consumer price index for the U.S. city average from the Bureau of Labor Statistics. Silicon Valley data includes Santa Clara and San Mateo Counties.

### Food Stamp Participants as a Percent of Resident Population

Data for food stamp participants is from the State of California, Department of Social Services. Data is for the number of food stamp participants in the month of June by county and state. California population estimates come from the California Department of Finance's "E-4 Historical Population Estimates for Cities, Counties and the State, 2001-2010, with 2000 and 2010 Census Counts" and "E-2. California County Population Estimates and Components of Change by Year, July 1, 2010-2012".

### Food Stamp Participation as a Percent of U.S. Population

Food stamp usage data is from the United States Department of Agriculture, Food and Nutrition Service, monthly national level data. National population data come from the U.S. Census Bureau, Population Estimates Branch. "Table 1. Annual Estimates of the Population for the United States, Regions, States, and Puerto Rico." Note: 2012 population data is preliminary and comes from "Table 1. Monthly Population Estimates for the United States: April 1, 2010 to August 1, 2012." Population and food stamp participation data as of May 2012.

## SOCIETY

### Preparing for Economic Success

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

Data for the 2010/11 academic year and historical data are provided by the California Department of Education. This is the fifth year in which statistics have been derived from student-level records. California Legislature enacted SB1453, which establishes two key components necessary for a long-term assessment and accountability system: Assignment of a unique, student identifier to each K-12 pupil enrolled in a public school program or in a charter school that will remain with the student throughout his or her academic 'career' in the California public school system; and establishment of a longitudinal database of disaggregated student information that will enable state policy-makers to determine the success of its program of educational reform. The methodology used calculate the dropout rate is an approximate probability that one will graduate on time by looking at the number of 12th grade graduates and number of 12th, 11th, 10th and 9th grade dropouts over a four year period. 2006/07 marks the first year in which the CDE derived graduate and dropout counts based upon student level data. However, for comparability, we report Silicon Valley and CA data following the non-adjusted protocol using the grade 9-12 year derived dropout rate. Although the more accurate adjusted rate is available for individual districts, and counties and is available at the state level, the data are not reported for the combination of districts and counties making up the Silicon Valley region. Silicon Valley includes San Mateo and Santa Clara counties, and New Haven, Newark, Fremont, and Scotts Valley Unified School Districts.

#### Algebra I Scores

Data are from the California Department of Education, California Standards Tests (CST) Research Files for San Mateo and Santa Clara Counties. 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 are administered only to students in California public schools. Except for a writing component that is administered as part of the grade four and grade seven English-language arts tests, all questions are 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. The 2012 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 2011-2012 school year, including 2011 summer school. 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. Percentages are rounded to the nearest ones place.

#### College Student Debt; Average Student Loans and Undergraduate Tuition

Data are provided by The Institute for College Access & Success, College Insight. Student debt and undergraduate financial aid data are licensed from Peterson's Undergraduate Financial Aid and Undergraduate Databases, (c) 2011 Peterson's, a Nelnet company, all rights reserved. College loan figures are inflation-adjusted and reported in first-half 2012 dollars, using the consumer price index for the U.S. city average from the Bureau of Labor Statistics. Data are limited to four-year; bachelor's degree-granting, Title IV eligible colleges and universities. Financial aid data are based on full-time, for-credit enrolled freshmen. Financial aid data for the 2009-2010 school year were accessed from the National Center for Education Statistics, IPEDS Data Center. Data on average tuition was calculated by multiplying individual institutions' in-state tuition by the number of undergraduates that were enrolled there in a 12-month period, then aggregated and divided by the total number of undergraduates in the region. Four-year colleges and universities in Silicon Valley included in the analysis are Bethany University, Cogswell Polytechnical College, Menlo College, Notre Dame de Namur University, Palo Alto University, San Jose State University, Santa Clara University, Stanford University, The Art Institute of California and The National Hispanic University.

# APPENDIX A

## Disconnected Youth

Disconnected youth data are from the U.S. Census Bureau, 2006-2011 American Community Surveys. Disconnected youth are classified as individuals between the ages of 16 and 19 who are not enrolled in school and are either unemployed or not in the labor force. Silicon Valley data includes Santa Clara and San Mateo Counties.

## 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, 2002-2011 American Community Surveys. The population of children is for children age three to five years old. The age of the population in preschool and nursery schools is from three years and older.

### Third Grade English-Language Arts Proficiency by Race/Ethnicity

Data is from the California Department of Education, California Standards Tests (CST) Research Files for San Mateo and Santa Clara Counties, and Fremont Unified, Newark Unified, New Haven Unified, and Scotts Valley Unified School Districts. The CSTs in English-Language Arts for third graders was administered only to students in California public schools and all questions were multiple-choice. These tests were developed specifically to assess students' knowledge of the California content standards, set by the State Board of Education. The 2012 English Language Arts 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 2011-12 school year, including 2011 summer school. 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 is the percentage of students in the group whose scores were at this performance standard. The state target is for every student to score at the Proficient or Advanced Performance Standard.

### Percent of Students Eligible to Receive Free or Reduced Price School Meals

Free and Reduced Price Meals (FRPM) information is submitted by schools to the Department of Education in January; however, the data is current as of October (previous year). Data files include public school enrollment and the number of students eligible for free or reduced price meal programs. Silicon Valley includes Santa Clara and San Mateo County schools, Newark Unified, Fremont Unified, New Haven Unified and Scotts Valley Unified schools districts. Years presented are the start year of the school year (e.g., 2011-2012 is shown as 2011). Comprehensive data is available on kidsdata.org.

### Relative Growth in Public and Private School Enrollment

Enrollment data from the California Department of Education. Data on private school enrollment includes schools with enrollment of six or more students. Silicon Valley includes Santa Clara and San Mateo Counties.

## Arts & Culture

### Economic Impact of Arts & Culture Industry Spending; In-Kind Contributions per Capita to Nonprofit Arts & Culture Organizations; Volunteers in Arts & Culture Industry

Arts & Culture indicator data from the Americans for the Arts, Arts & Economic Prosperity National Statistical Report version III for fiscal year 2005 and version IV for fiscal year 2010 data. Regional data available in Appendix B detailed data tables. Simplified regional names have been used for Pima County (Tucson), City of Chicago (Chicago), Miami-Dade County (Miami), Wake County (Raleigh), Allegheny County (Pittsburg), City and County of Philadelphia (Philadelphia), City of Austin (Austin), and Greater Portland (Portland). Fiscal year 2005 data inflation adjusted and reported in 2010 dollars, using consumer price index for the U.S. city average from the Bureau of Labor Statistics. Data for Silicon Valley is only available for Santa Clara County.

### Event Attendance

Professional sports event information was obtained from Baseball Reference, Tennis Panorama News, ArenaFan, The Sports Network, and Soccer America Daily. San Jose SaberCats data is from 2011. Collegiate sports information was for Stanford, Santa Clara, and San Jose State University. Data received from Total Football Stats, Go Stanford, Santa Clara Broncos, and San Jose State Spartans.

## Quality of Health

### Kindergarten Immunizations

Data for kindergarten immunization rates come from the kindergarten assessment, which measures compliance with the school immunization law, conducted in all schools with kindergartens. Immunizations required by law include: All required immunizations include 5 doses of DTP/DTaP/DT vaccine (4 doses meets the requirement if at least one was given on or after the fourth birthday); 4 doses of polio vaccine (3 doses meets the requirement if at least one was given on or after the fourth birthday); 2 doses of MMR vaccine (may be given separately or combined, but both doses must be given on or after the first birthday); 3 doses of hepatitis B vaccine; and 1 dose of varicella vaccine (or physician documented varicella disease history or immunity). In the fall, every school with a kindergarten class in California must provide information on the total enrollment, the number of students who have or have not received the immunizations required, and the number of exemptions. In the spring, local and state public health personnel visit a sample of licensed schools with kindergarten classes, to collect the same information for comparison.

### Percent of Population with Health Insurance

Data for those with health insurance are from the U.S. Census Bureau, 2011 American Community Survey, 1-year estimates for the civilian non-institutionalized population. Silicon Valley data includes Santa Clara and San Mateo Counties.

### Infant Mortality Rate

Data are provided by the California Department of Health, Center for Health Statistics, Health Information and Strategic Planning, 1994-2010. Silicon Valley estimates are for San Mateo and Santa Clara Counties.

### Percentage of Student Population that is Overweight or Obese

Data for overweight and obese students are from the UCLA Center for Health Policy Research Analysis of California Physical Fitness Test Data, 2005-2010. Overweight is defined as having a BMI between the 85th and 95th percentile on the 2000 Centers for Disease Control and Prevention sex-specific BMI-for-age growth charts, while obesity is defined as having a BMI above the 95th percentile. The California Physical Fitness Test examines public school students in grades 5, 7, and 9. Please refer to the publication "A Patchwork of Progress: Changes in Overweight and Obesity Among California 5th, 7th and 9th Graders, 2005-2010" for methodology information. Comprehensive data is available on kidsdata.org.

### Percentage of Adult Population that is Overweight or Obese

Data for adult overweight and obesity is provided by the UCLA Center for Health Policy Research through the California Health Interview Survey (CHIS), 2009. CHIS calculates adult rates for individuals ages 18 and over. The variable is created using Body Mass Index, with BMI 25.0 - 29.99 (Overweight) and BMI 30.0 or higher (Obese).

### Age of Silicon Valley Caregivers; Work Status of Caregivers

Data is provided by the UCLA Center for Health Policy Research through the California Health Interview Survey (CHIS), 2009. CHIS asked adult respondents: "During the past 12 months, did you provide any such help to a family member or friend (who has a long-term illness or disability)?"

## Safety

### Child Abuse

Child maltreatment data are from the California Children's Services Archive, CWS/CMS 2012 Quarter 1 Extract. Data are downloaded from the Center for Social Services Research at the University of California at Berkeley. Population Data Source: California Department of Finance annual population projections (1998-2011 calculations based on 2000 and 2010 Census data). Child and Family Services staffing data for Santa Clara County are from Santa Clara County yearly budget reports located on the Santa Clara County Public Portal. San Mateo County data are from San Mateo County's Human Service Agency.

### Felony Offenses

Crime data are from the FBI's Uniform Crime Reports, as reported by the California Department of Justice in their annual "Criminal Justice Profiles". Data are reported for Santa Clara and San Mateo Counties, and California. Felony offenses include violent, property and drug offenses.

### Adult Drug & Alcohol Rehabilitation Clients; Juvenile Drug & Alcohol Rehabilitation Clients

Felony drug offense data are from the FBI's Uniform Crime Reports, as reported by the California Department of Justice in their annual "Criminal Justice Profiles". 2011 data is not available. Drug rehabilitation data include the number of clients across all modalities utilizing residential and outpatient drug and alcohol rehabilitation services provided by Santa Clara and San Mateo Counties. This data reflects total number of cases in each modality and does not present unique client numbers. Some clients have sought assistance in more than one modality or more than once during a fiscal year. A person served could be double counted in terms of age because <18 clients can become ≥18 in another treatment episode in the same report period. Data is provided by the Santa Clara County Department of Alcohol and Drug Services, and by the San Mateo County Behavioral Health and Recovery Services. San Mateo County rehabilitation data prior to fiscal year 2004 cannot be updated, as the Behavioral Health and Recovery Services adopted a new data system in July 2003.

### Assault Cases

Assault data are from the California Department of Public Health, EpiCenter California Injury Data Online. Assault cases include "abuse and neglect," "blunt object," "cut/pierce," "fight, unarmed," "firearm," and "other" cases that result in death, non-fatal hospitalization and non-fatal emergency department visit (treat & release, or transfer to another facility). Female and male population data used by the Department of Public Health are from the California Department of Finance Demographic Research Unit, "Estimates of Race/Ethnic Population with Age and Gender Detail" data sets for 1990-1999 and 2000-2010.

# PLACE

## Environment

### Waste Disposal per Capita

Data are provided by the California Department of Resources Recycling and Recovery, Local Government Central - Disposal Reporting System (DRS); Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility. This report provides annual estimates of the disposal amounts for jurisdictions in California as reported by county/Regional Agency disposal reporting coordinators. Silicon Valley includes Santa Clara and San Mateo counties. The daily estimates are calculated according to a 365 day calendar. California population estimates come from The California Department of Finance's "E-4 Historical Population Estimates for Cities, Counties and the State, 2001-2010, with 2000 and 2010 Census Counts" and "E-2 California County Population Estimates and Components of Change by Year, July 1, 2010-2012".

### Electricity Productivity and Electricity Consumption per Capita

Electricity Consumption data is from the California Energy Commission. Gross Domestic Product (GDP) data is from Moody's Economy.com. GDP values are inflation-adjusted and reported in first half 2012 dollars, using the consumer price index for the U.S. city average from the Bureau of Labor Statistics. Silicon Valley data includes Santa Clara and San Mateo Counties. Per capita values were computed from the California Department of Finance's "E-4 Historical Population Estimates for Cities, Counties and the State, 2001-2010, with 2000 and 2010 Census Counts" and "E-2 California County Population Estimates and Components of Change by Year, July 1, 2010-2012".

### Solar Installations by Sector

Data on the Solar Installation by Sector are from The California Solar Initiative (CSI) as part of the Go Solar California campaign, the Palo Alto Municipal Utilities as part of the Photovoltaic Partners Program and from Silicon Valley Power. The CSI data shows calculated CEC PTC Rating, a measure of alternating current output of photovoltaic system under PVUSA Test Conditions as calculated by PowerClerk. The Palo Alto and Silicon Valley power data is the capacity by installation year, measured in alternating current kilowatts.

### Time Required for Permitting of Renewable Energy Installations

Data are from Joint Venture: Silicon Valley Network of Survey Cities. In recent years, residents and cities have begun investing substantially in renewable energy technology to provide electricity for their property and homes. In order to track achievements in this area, this year's survey included questions related to the renewable energy portfolios of the surveyed cities and its residents. In box and whisker charts, the blue box represents the range for which the middle 50 percent of the responses fall. The vertical black line in the blue box represents the median (middle) value of the data set. The left-hand whisker represents the range for the lower 25 percent of the data, and the right-hand whisker represents the range for the upper 25 percent of the data.

## Transportation

### Vehicle Miles of Travel per Capita and Gas Prices

Vehicle Miles Traveled (VMT) is defined as total distance traveled by all vehicles during selected time period in geographic segment. VMT estimates for 1995 – 2007 are from the California Department of Transportation's "2009 California Motor Vehicle Stock, Travel, and Fuel Forecast." VMT data for 2008-2011 is from the California Department of Transportation's Highway Performance Monitoring System's "California Public Road Data." Data includes annual statewide total VMT on State highways and non-state highways. In order to calculate VMT, Caltrans multiplies the road section length (length in miles along the centerline of the roadway) by Average Annual Daily Traffic (AADT). AADT are actual traffic counts that the city, county, or state have taken and reported to the California Department of Transportation. To compute per-capita values, Revised County Population Estimates, 1990-2010 with 1990, 2000, and 2010 census counts from the California Department of Finance were used. Gas prices are average annual retail gas prices for California, and come from the Weekly Retail Gasoline and Diesel Prices (Cents per Gallon, Including Taxes) data series reported by the U.S. Department of Energy, Energy Information Administration. Gas prices are All Grades All Formulations Retail Gasoline Prices (including taxes) and have been adjusted into first half of 2012 dollars using the U.S. city average consumer price index of all urban consumers, published by the Bureau of Labor Statistics.

### Means of Commute

Data on the means of commute to work are from the United States Census Bureau, 2003 and 2011 American Community Survey. 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" includes taxicab, motorcycle, bicycle, walking, working from home and other means that are not identified separately within the data distribution.

### 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 San Trans, Valley Transportation Authority, Altamont Commuter Express, and Caltrain. The California Department of Finance's "E-4 Historical Population Estimates for Cities, Counties and the State, 2001-2010, with 2000 and 2010 Census Counts" and "E-2 California County Population Estimates and Components of Change by Year, July 1, 2010-2012" were used to compute per-capita values.

### Commute Patterns

Data for Commute Patterns provided by the United States Census Bureau, 2011 American Community Survey Public Use Microdata Samples (PUMS). Data includes the Place of Work PUMA for San Francisco, San Mateo, and Santa Clara Counties.

## Land Use

### Residential Density

Joint Venture: Silicon Valley Network conducted a land-use survey of all cities within Silicon Valley. Collaborative Economics completed the survey compilation and analysis. Participating cities included: Atherton, Belmont, Brisbane, Burlingame, Campbell, Cupertino, Fremont, Gilroy, Hillsborough, Los Altos, Los Altos Hills, Milpitas, Monte Sereno, Morgan Hill, Mountain View, Newark, Palo Alto, Portola Valley, Redwood City, San Bruno, San Carlos, San Jose, Santa Clara, Saratoga, South San Francisco, and Sunnyvale. Santa Clara is also included. In 2008, the survey was expanded to include more cities along the I01 corridor: Belmont, Brisbane, Burlingame, Millbrae, San Bruno, and South San Francisco. Most recent data are for fiscal year 2012 (July '11-June '12). The average units per acre of newly approved residential development are reported directly for each of the cities and counties participating in the survey.

### Housing Near Transit; Development Near Transit

Data are from Joint Venture: Silicon Valley Network of Survey Cities. 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 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.

## Housing

### Building Affordable Housing

Data are from Joint Venture: Silicon Valley Network of Survey Cities. 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 owners and renters housing costs are from the United States Census Bureau, American Community Survey. 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. The data for Silicon Valley includes Santa Clara and San Mateo County and is 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. Quarterly Sales Volume for Existing Single Family Detached Home Sales data were provided by RAND California Statistics sourced by DataQuick News.

### 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, American Community Survey. 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.

### Housing Starts

Housing starts data are from the Construction Industry Research Board as reported by the California Building Industry Association. Data are for the San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area and are for single-family and multi-family homes. 2011 data are through November 2011.

### Trends in Home Sales

Data are provided by RAND California Statistics and sourced by DataQuick News. For average sale price and number of transactions, all homes (including condos/townhomes) were included in calculations. Sales price are inflation-adjusted and reported in first half-year 2012 dollars, using the U.S. city average consumer price index of all urban consumers, published by the U.S. Bureau of Labor Statistics. Data is for Santa Clara and San Mateo Counties, Fremont, Newark, Union City and Scotts Valley.

### Residential Foreclosure Activity

Data was compiled by RAND California on behalf of DataQuick News. Data reflects total foreclosures for townhomes, condominiums and single family homes. The foreclosure numbers are strictly recorded Trustee's Deeds, or when the property is actually taken back by the bank. 2012 data includes foreclosures through June. Data is for Santa Clara and San Mateo Counties, Fremont, Newark, Union City and Scotts Valley. Annual residential foreclosures are forecasted based on first half 2012 figures.

### Underwater Mortgages

Negative equity, otherwise known as an underwater mortgage is when the market value of a home exceeds the amount due on the mortgage. Underwater mortgage rates are provided by Zillow Real Estate Research, Negative Equity Report. Data is unavailable prior to 2011. The regional Silicon Valley rate was calculated using the Joint Venture zip code-based definition of Silicon Valley. City rankings were calculated using the following cities: Atherton, Belmont, Brisbane, Burlingame, Campbell, Cupertino, Daly City, Foster City, Fremont, Gilroy, Half Moon Bay, La Honda, Lexington Hills, Los Altos, Los Gatos, Menlo Park, Millbrae, Milpitas, Montara, Morgan Hill, Moss Beach, Mountain View, Newark, Pacifica, Palo Alto, Portola Valley, Redwood City, San Bruno, San Carlos, San Gregorio, San Jose, San Martin, San Mateo, Santa Clara, Saratoga, Scotts Valley, South San Francisco, Sunnyvale, Union City.

## GOVERNANCE

### City Revenue

Data provided by the California State Controller's Office, Cities Annual Report. Revenue is adjusted for inflation, and reported in first half of 2011 dollars using the U.S. city average consumer price index of all urban consumers, published by the Bureau of Labor Statistics. Data is for cities in San Mateo and Santa Clara Counties, Fremont, Newark, and Union City. Other Taxes include revenue sources such as transportation taxes, transient lodging taxes, and business license fees. Other Revenue includes revenue sources such as revenue of use of money and property, sale of real and personal property, and intergovernmental transfers.

**Silicon Valley Major Areas of Economic Activity**

	Employment 2012 Q2	Percent of Total Silicon Valley Employment	Percent Change	
			2007 - 2012	2011 - 2012
<b>Total Employment</b>	<b>1,367,509</b>	<b>100.0%</b>	<b>-1.9%</b>	<b>4.2%</b>
<b>Community Infrastructure</b>	<b>782,583</b>	<b>57.2%</b>	<b>-1.5%</b>	<b>3.9%</b>
Health & Social Services	134,699	9.8%	10.4%	2.4%
Retail	129,755	9.5%	-5.3%	3.7%
Accommodation & Food Services	113,117	8.3%	6.3%	5.4%
Education	103,631	7.6%	2.0%	2.2%
Construction	57,651	4.2%	-24.4%	11.0%
Consumer Services	41,454	3.0%	-5.2%	3.7%
Wholesale Trade	33,621	2.5%	-11.6%	1.2%
Transportation	27,450	2.0%	-0.9%	4.4%
Federal Government Administration	23,802	1.7%	-8.3%	-3.0%
Arts, Entertainment, & Recreation	25,011	1.8%	-4.8%	3.8%
Consumer Financial Services	21,537	1.6%	-12.8%	6.0%
Other	22,894	1.7%	119.5%	13.6%
Goods Movement	19,291	1.4%	-18.0%	1.3%
Local Government Administration	10,734	0.8%	-9.6%	-2.9%
Nonprofits	11,099	0.8%	-7.0%	3.3%
Utilities	4,767	0.3%	-7.6%	4.1%
Warehousing & Storage	2,037	0.1%	-7.7%	-0.3%
State Government Administration	33	0.0%	-58.2%	-21.4%
<b>Information Products &amp; Services</b>	<b>302,459</b>	<b>22.1%</b>	<b>6.5%</b>	<b>4.5%</b>
Software	101,376	7.4%	17.2%	9.8%
Computer Hardware	42,571	3.1%	10.9%	0.0%
Semiconductor & Semiconductor Equipment Manufacturing	39,309	2.9%	1.0%	3.9%
Internet & Information Services	31,201	2.3%	43.2%	8.7%
Electronic Component Manufacturing	23,523	1.7%	-19.7%	-1.8%
Communications Services & Equipment Manufacturing	20,533	1.5%	7.4%	1.8%
I.T. Wholesale Trade	19,783	1.4%	-11.4%	1.0%
Instrument Manufacturing	17,457	1.3%	-20.1%	2.2%
Other Media & Broadcasting	4,686	0.3%	21.0%	-4.7%
I.T. Repair Services	2,020	0.1%	6.0%	-15.9%
<b>Innovation &amp; Specialized Services</b>	<b>156,537</b>	<b>11.4%</b>	<b>3.3%</b>	<b>8.7%</b>
Technical & R&D	54,182	4.0%	9.2%	14.5%
Personnel	31,706	2.3%	-1.7%	12.2%
Management Offices	19,622	1.4%	-20.9%	-24.0%
Specialized Financial Services	22,119	1.6%	0.3%	3.2%
Legal	10,170	0.7%	-10.5%	2.8%
Management Services	8,485	0.0%	0.0%	0.0%
Marketing/Ad/PR	6,617	0.5%	2.0%	-16.7%
Design	3,636	0.3%	-26.3%	6.4%
<b>Business Infrastructure</b>	<b>59,642</b>	<b>4.4%</b>	<b>-6.9%</b>	<b>5.5%</b>
Facilities	38,742	2.8%	-2.7%	3.1%
Administrative Services	20,900	1.5%	-13.8%	10.2%
<b>Other Manufacturing</b>	<b>45,204</b>	<b>3.3%</b>	<b>-31.6%</b>	<b>-4.9%</b>
Other Primary & Fabricated Metal Manufacturing	14,004	1.0%	-17.4%	-7.0%
Div. Ag & Food Manufacturing	13,896	1.0%	-7.4%	0.8%
Other Machinery & Equipment Manufacturing	7,275	0.5%	-33.9%	-14.5%
Other Petrochemical Manufacturing	4,295	0.3%	-17.3%	-6.3%
Textile, Wood, & Furniture Manufacturing	2,861	0.2%	-29.1%	5.0%
Other Misc. Manf. & Space & Defense Manufacturing	1,424	0.1%	-87.7%	4.6%
Paper & Packaging Manufacturing	1,224	0.1%	-36.5%	-4.8%
Mining	225	0.0%	-33.4%	6.6%
<b>Life Sciences*</b>	<b>21,084</b>	<b>1.5%</b>	<b>-36.0%</b>	<b>0.2%</b>
Medical Devices	10,976	0.8%	-16.1%	-1.6%
Biotechnology	10,108	0.7%	7.5%	2.4%
Pharmaceuticals	***	-	-	-

\*In 2010, employment in Pharmaceuticals was suppressed for confidentiality reasons, causing the significant drop in total Life Sciences employment.  
 Note: Data is for San Mateo and Santa Clara Counties, Scotts Valley, Fremont, Newark, and Union City.  
 Data Source: California Employment Development Department, Labor Market Information Division, Quarterly Census of Employment and Wages  
 Analysis: Collaborative Economics

## ACKNOWLEDGMENTS

**Special thanks to the following organizations that contributed data and expertise:**

Alcohol & Drug Services Research Institute

ALH Urban & Regional Economics

Altamont Commuter Express

Americans for the Arts

Brookings, Metropolitan Policy Program

California Association of Realtors

California Department of Education

California Department of Finance

California Department of Justice

California Department of Public Health

California Department of Resources Recycling and Recovery

California Department of Social Services

California Department of Transportation

California Employment Development Department

California Energy Commission

California Health Interview Survey

California Public Utilities Commission

California State Controller's Office

Caltrain

CB Insights

Cities of Silicon Valley

City Planning and Housing Departments of Silicon Valley

Colliers International

Construction Industry Research Board

Energy Information Administration

Factset Mergerstat LLC

Federal Financial Institutions Examination Council (FFIEC)

Integrated Postsecondary Education Study Data System

Kauffman Index

Moody's Economy.com

National Center for Educational Statistics

National Establishment Time-Series (NETS) Database

Optony Inc.

Palo Alto Municipal Utilities

Pricewaterhouse Coopers MoneyTree™

RAND California Statistics

Real Facts

Renaissance Capital's IPOhome.com

SamTrans

San Mateo County Human Services Agency

Santa Clara County Department of Alcohol & Drug Services

Silicon Valley Power

The Institute for College Access & Success

U.C. Berkeley Center for Social Services Research

U.S. Bureau of Labor Statistics

U.S. Census Bureau

U.S. Department of Agriculture

U.S. Patent and Trade Office

U.S. Small Business Administration

UCLA Center for Health Policy Research

Valley Transportation Authority

Zillow Real Estate Research

## 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 COMMUNITY FOUNDATION

As a comprehensive center for philanthropy serving all of San Mateo and Santa Clara Counties, our mission is to strengthen the common good, improve the quality of life and address the most challenging problems.

## Joint Venture Silicon Valley Investors Council

### PRIVATE SECTOR

Accenture  
Accretive Solutions  
ACE Train (Altamont)  
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Frieda C. Fox Family Foundation  
Foothill-De Anza Community College District  
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Lucile Packard Children's Hospital at Stanford  
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Leo M. Shortino Family Foundation  
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Microsoft  
Mitsubishi International Corporation  
Moore Foundation  
Morgan Family Foundation  
NetApp  
Netherlands Consulate  
New Spectrum Foundation  
NextG Networks  
Notre Dame de Namur University  
O'Connor Hospital  
Oakland Athletics  
Open Space Authority  
Optony  
Oracle  
Orrick, Herrington & Sutcliffe LLP  
Pacific Gas & Electric Company  
Packard Foundation  
Pipe Trades Training Center of Santa Clara County  
PRX Digital  
Robert Half International  
Samtrans/Caltrain  
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San Jose Sharks  
San Jose/Silicon Valley Business Journal  
San Jose/Silicon Valley Chamber of Commerce  
San Jose State University  
SanDisk  
Santa Clara Building & Construction  
Trades Council  
Santa Clara County Office of Education  
Santa Clara University  
Santa Clara VTA  
Santa Clara Valley Water District  
Sensiba San Filippo  
Silicon Valley Community Foundation  
Silicon Valley Power  
Skoll Foundation  
Sobrato Development Companies  
Solaria  
SolutionSet  
South Bay Piping  
Stanford University  
Studley  
Summerhill Land  
Sun Microsystems  
SunPower Corporation  
SVB Financial Group  
Synopsis  
TDA Group  
Tech CU  
Therma

T-Mobile  
UPS  
University of California, Santa Cruz  
University of Phoenix  
Varian Medical Systems  
VMware  
Volterra  
Weil Gotshal & Manges  
Wells Fargo Bank  
Wilmer Hale, LLP  
Wilson Sonsini Goodrich & Rosati, LLP  
VMware  
Volkswagen Group of America  
Zanker Recycling/GreenWaste

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City of Brisbane  
City of Burlingame  
City of Campbell  
City of Colma  
City of Cupertino  
City of Daly City  
City of East Palo Alto  
City of Foster City  
City of Fremont  
City of Gilroy  
City of Half Moon Bay  
City of Los Altos  
City of Menlo Park  
City of Milpitas  
City of Monte Sereno  
City of Morgan Hill  
City of Mountain View  
City of Newark  
City of Pacifica  
City of Palo Alto  
City of Redwood City  
City of San Bruno  
City of San Carlos  
City of San Jose  
City of San Mateo  
City of Santa Clara  
City of Santa Cruz  
City of Saratoga  
City of South San Francisco  
City of Sunnyvale  
City of Union City  
City of Watsonville  
County of Alameda  
County of San Mateo  
County of Santa Clara  
County of Santa Cruz  
Town of Atherton  
Town of Portola Valley  
Town of Los Altos Hills  
Town of Los Gatos  
Town of Woodside



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