Dear Friends:

If the 2008 Index were a weather report, it would say we’re in for some stormy weather.

What’s causing it? Some local conditions, for sure, but mostly it’s a series of high-pressure systems outside Silicon Valley that send heavy winds gusting in: a sub-prime mortgage crisis, volatility in financial markets, and a rapidly changing global economy.

The good news is there is a real up-side to the kind of rapid change imposed by globalization, especially for an innovation-based economy like ours. The pages here show widespread productivity gains, as measured by value-added per employee, which rose for the sixth consecutive year and now surpass previous highs from the dot-com boom. We’re still adding jobs and experiencing population growth. Our share of patents reached an all-time high, and venture capital investment rose 11 percent. If the current trend continues, Silicon Valley will command 30 percent of the nation’s venture funding, a remarkable figure.

We should also point out that in the emerging area of clean technology, Silicon Valley has already staked out an early advantage. Our region claimed 62 percent of all cleantech venture funding in California, 21 percent of the nation’s.

It’s clear that our Valley’s unique mix of talent, technology, and capital translate into a genuine comparative advantage, and one way this is manifest is in real income gains. This year’s Index shows our region’s per capita income is 57 percent higher than the national average, and growing faster than the United States as a whole. We also report that for the first time in five years median household income rose.

But there is bad news too. Turbulence has meant progress for some and great difficulty for others, and this will be our region’s challenge for some time. As you’ll read in the Special Analysis section, we see a great deal of volatility in the Valley’s mid-wage occupations. Jobs have declined in a number of fields, while increasing in others, due in large part to the impact of globalization on our leading companies.

We’re encouraged that boomer retirements are creating thousands of mid-wage jobs for the region, but it’s not at all clear if those jobs will be filled by a home-grown workforce: high school graduation rates are still a problem; the reading proficiency of our region’s third graders is decreasing; large achievement gaps persist by race and ethnicity; and juvenile felony offenses rose for a fourth consecutive year.

We think Silicon Valley has to be as innovative in the civic arena as it is in the commercial one, if we are going to weather these turbulent times. That is one reason our two organizations teamed up in 2007, so we could help the region break new economic ground together.

We warmly welcome you to join us.

Sincerely,

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

Emmett D. Carson, Ph.D.
CEO & President
Silicon Valley Community Foundation
Silicon Valley is drawing population from other U.S. and global regions at a stronger pace than California. These population inflows are highly educated and ethnically diverse.

**Economy**

Though employment growth slowed, it expanded at a faster rate than the state or nation, adding nearly 28,000 jobs over the previous year. Venture capital investment and patent activity continue to grow and extend into new areas. Incomes and the cost of living are rising.

Old challenges continue to confront the region in the areas of health and education where disparities by race/ethnic group persist. High school graduation rates dropped. Juvenile felony offenses increased slightly.

Improvements are underway in environmental quality and land use. Residents are changing habits and seeking out renewable energy sources. On the down-side, housing costs are rising and foreclosure rates are skyrocketing.

The region continues to invest in its nonprofits, and its voters are increasingly independent. City revenues rose mainly due to property taxes.

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Silicon Valley is deeply integrated into the global network of innovative regions. The competition for talent, innovation and capital has increased dramatically, driving a restructuring of the Valley’s economy with a shift toward smaller, more nimble firms and higher value-added activities. This restructuring has resulted in a shift from long employer tenure linked with important social benefits such as health insurance and retirement to frequent job changes between employers who provide fewer and fewer benefits.

Economic restructuring and its quickening pace of change in the global economy is accompanied by growing turbulence and uncertainty in our communities.
The Flexible Economy and People

As businesses need the flexibility to quickly adapt to market changes in the ever-quickening global economy, employees are exposed to increased uncertainty. Firms are employing fewer people and employee tenure is declining as people change jobs more frequently. In this setting incomes are prone to greater fluctuation, wage gaps are more prevalent and health and retirement benefits are less. Further, the demand for higher skills continues to rise and with it the earnings gap between the high and low-skilled is widening.

Structural Change in the Global Economy

In recent testimony before the U.S. House Ways and Means Committee, the Director of the Congressional Budget Office, Peter Orszag, posited that while macroeconomic fluctuations are now much milder than they were in the past, “households continue to experience substantial variability in their earnings and income, and that variability may now be much higher than in the past—perhaps contributing to anxiety among workers and families” (2007, 12). In addition to concerns about families maintaining a standard of living, this uncertainty translates into real concerns for policy makers faced with highly fluctuating tax revenues.

There are clearly positive and negative results of the global economic restructuring currently under way. Increased global interaction spurs the innovation process creating new technologies, new market opportunities, productivity gains, and wealth. Our firms need to be flexible to stay competitive; however, flexibility for firms translates into anxiety for our workers. The new employment environment is characterized by turbulence, uncertainty and the need for adaptability in the following ways:

- More frequent employer switches
- Shorter job tenure
- Required retraining/skills up-grading
- More frequent wage gaps and fluctuation
- Increasing self-employment
- Required geographic mobility

As the employment environment evolves and new skills are demanded, how is our region’s occupational mix changing and what new opportunities for earnings mobility are emerging in this new constant state of flux?

1 Not only is the size of a typical firm in Silicon Valley shrinking (Zhang 2003, Cherne 2005), but growing numbers of people are earning incomes on their own as so-called “lone wolves.” Since 2002, the number of businesses with no employees has been growing at a faster rate than the number of new jobs at firms. In 2005, these business owners without employees equaled 15% of total non-firm employment. From 2004 to 2005 the number of business owners with no employees grew by 8,400 while the number of jobs in firms with payroll grew by 6,400. These changes have significant consequences for workers in terms of continued access to vital benefits such as health insurance and retirement.

2 Nationally the decline in health care coverage through employers has occurred in small firms and not large firms (Kim, et al 2007, 13). With health care costs rising faster than before, small firms are feeling the pressure. For Silicon Valley in particular, a region characterized by very small businesses (Zhang 2003) and high employee turnover (Brown 1999), there are serious implications for maintaining access to quality health care in the region. In addition to health coverage, the traditional framework for retirement savings has been disrupted by falling job tenure.
Focusing on the Middle Ground: Opportunities, Challenges, Implications

In addition to world class engineering, design and other professional talent, our region demands skilled workers in mid-level occupations in a broad array of industries. The largest concentration of jobs in Silicon Valley is at the mid-wage level—paying between $30,000 and $80,000 per year. Just under half of all workers are drawing mid-level wages, while roughly one quarter are higher-wage employees and another quarter are lower-wage workers.

Technological advance generates not only new opportunities for design and new product development but also new occupational opportunities for technical support. While this is true for the Valley’s significant information technology sectors, growing biomedical and health technologist fields also exemplify these important relationships between high and mid-level occupations.

Beyond globally-oriented industry sectors, the Valley needs “jobs of place” that promote the essential quality of life of the region. These include health care professionals, teachers, public sector personnel as well as construction workers. These are mid-level jobs that are the foundation of the community. A coming wave of retirements in fields such as nursing, construction and public administration means the demand for foundational jobs is growing.

As industries evolve and labor force patterns shift, how is Silicon Valley’s occupational distribution changing and what new opportunities are emerging?

Occupational shifts and growing mid-wage opportunity

The number of mid-wage jobs in Silicon Valley has been shrinking in recent years—from 603,350 in 2002 to 541,300 in 2006. In 2002, mid-wage jobs comprised 52% of total jobs and 46% by 2006 (Figure 1). The percentage of higher-wage jobs remained relatively stable at 26% and 27%, while lower-wage jobs grew in share from 22% to 27% of the workforce over the four-year period.

The story, however, is more complicated than the loss of mid-wage jobs in Silicon Valley. The region’s 541,300 mid-wage jobs are distributed across 523 different occupations. Of all these occupations, half grew and half lost jobs between 2002 and 2006.

Figure 1

<table>
<thead>
<tr>
<th>Job Distribution by Low, Mid, and High Income Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>2002</td>
</tr>
<tr>
<td>2006</td>
</tr>
</tbody>
</table>

Source: Occupational Employment Statistics
Note: Silicon Valley includes data for Santa Clara County and San Mateo County. Distribution based on inflation-adjusted median annual earnings. Analysis: CEI
Depicted in Figure 2 is a selection of top growing and top declining mid-wage occupations in absolute numbers. Of all top growing mid-wage occupations, occupations with primary activities in the fields of Health, Construction and Information Technology (I.T.) Systems Support were most frequent. Overall, these are foundational occupations in that their primary activities serve the local population. In the case of IT Systems Support, as technology permeates the full extent of the economy, so too do occupations such as Computer Support Specialists.

Gains and losses are taking place in foundational jobs as well as in jobs closely linked to export-oriented technology industries. In absolute numbers, mid-wage occupational growth between 2002 and 2006 was greatest for Electricians increasing by 2,200 and Plumbers increasing by more than 1,400 people. Medical Assistants, Biological Technicians and Computer Support Specialists each expanded their numbers by about 1,000 in Silicon Valley. In contrast, in addition to general administrative support positions, Semiconductor Processors and Electrical & Electronic Engineering Technicians were some of the occupations that shed the most jobs in Silicon Valley over the same four-year period.

The middle ground is shifting in several ways:

- Declining mid-wage occupations include general support jobs—such as Secretaries, General Office Clerks, and Customer Service Representatives.
- Other declining mid-wage jobs are special support occupations in the region’s technology industries—such as Electrical Engineering Technicians and Semiconductor Processors.
- Biological Technicians are growing in number and are located in foundational jobs such as hospitals and medical labs as well as in the biotech industry.
- Growing mid-wage foundational occupations include Electricians, Plumbers and Medical Assistants.
- Important across the entire economy, Computer Support Specialists are critical to any business or organization employing information technology.
WHAT IS THE INDEX?
The Silicon Valley Index has been telling the Silicon Valley story since 1995. Released early every year, the indicators 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, going 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; and
• Measure outcomes, rather than inputs.

Appendix A provides detail on data sources for each indicator.

WHAT IS AN INDUSTRY CLUSTER?
Several of the economic indicators relate to “industry clusters.” An industry cluster is a geographic concentration of interdependent, internationally competitive firms in related industries, and includes a significant number of companies that sell their products and services outside the region. Healthy, outward-oriented industry clusters are a critical prerequisite for a strong economy.

Appendix B identifies the specific subsectors included in each cluster.

THE 2008 INDEX

PEOPLE

Silicon Valley is drawing population from other U.S. and global regions at a stronger pace than California. These population inflows are highly educated and ethnically diverse.

Silicon Valley’s population grew by 1.5% over the previous year.

Diversity is growing almost half of Silicon Valley’s population speaks a language other than English in the home.

Silicon Valley continues to attract foreign science and engineering students.

ECONOMY

Though employment growth slowed, nearly 28,000 jobs were added over the previous year, and the region grew at a faster rate than California or the U.S. Venture capital investment and patent activity continues to grow and extend into new areas. Silicon Valley accounts for 62% of total cleantech venture capital investment in the State. Incomes are rising but cost of living is too.

Silicon Valley gained 28,000 jobs 2006 Q1 to 2007Q1

Silicon Valley continues to increase its share of all CA and US patents. 47% of CA Patents 12% of U.S. Patents

Silicon Valley VC Investment: +10.8% 2006 Q1-Q3: $5.3 billion 2007 Q1-Q3: $5.9 billion

The region is lagging other global regions in broadband speed and penetration
Bay Area 51% — 200 k/bits Japan 65% — 256 k/bits South Korea 94% — 256 k/bits

Median Household Income ($2007)

Median household income continued to increase in Silicon Valley, climbing 5.1% in 2006 to $94,500. The California median household income is $61,100, the U.S. median household income is $44,300, the Santa Clara County is $107,000, and California counties generally are well above the national average.

2007 Median Household Income

Silicon Valley: $94,500
California: $61,100
United States: $44,300
Santa Clara County: $107,000

SV Share of CA Cleantech VC 2007

Silicon Valley share of cleantech venture capital investment in California continued to increase in 2007 to 62%.

2006-2007
SV +94% Rest of CA +7%
Old challenges continue to confront the region in the areas of health and education where disparities by race/ethnic group persist. High school graduation rates dropped. Juvenile felony offenses increased slightly. The region’s arts organizations are growing in number with decreasing funding.

Improvements are underway in environmental quality and land use. Residents are changing habits in water consumption and transportation and they are installing solar and wind systems. On the down-side, housing costs are rising and foreclosure rates are skyrocketing.

The region continues to invest in its nonprofits, and its voters are increasingly independent. City revenues rose mainly due to property taxes. Although the region accounts for roughly 7 percent of the state’s population, Silicon Valley residents accounted for 15 percent of State revenues from personal income tax.

Rates of Immunization for Children Ages 19-35 Months

Child immunization rates are not improving and are not closer to the Healthy People 2010 Goal of 90 percent.

Rate of Immunization for Children Ages 19-35 Months

Health Insurance Coverage Varies by Language

Juvenile Felony offenses per capita 2005-2006

SV + 1.3% CA + 3.9%

Funding for the Arts 2004-2005

Revenues - 13% Expenses - 17% Contributions - 3%

Water Consumption

Kilowatts added through Solar & Wind Systems: +21% Transit ridership: +3.4%

11 percent of all hybrid vehicles in California are registered in Silicon Valley

2007: Share of new housing approved near transit 55%

New Approved Residential Developments

1998 – 7 Units per Acre 2007 – 21 Units per Acre Rental Rates 2006-07: +7%

2007 foreclosure rates 4x previous year

Nonprofits Continue to Grow

1995 1951 2005 3082

Registered Voters with No Party Affiliation

SV 23% CA 19%

Change in City Revenues from Previous Year

Property Taxes +37% Sales Taxes -22%

In 2005, Silicon Valley accounted for 15 percent of CA State revenues from personal income tax

City Revenue
Silicon Valley is attracting stronger population inflows than the State as a whole. These population flows are highly educated and coming from around the world.

**Why Is This Important?**

Silicon Valley’s most important asset is its people. They drive the economy and shape the quality of life in the region. The region has benefited significantly from the entrepreneurial spirit of people drawn to Silicon Valley from around the country and around the world. In particular, immigrant entrepreneurs have contributed considerably to innovation and job creation in the region.

A region that can draw talent from other parts of the country and other regions of the world vastly expands its potential for closer integration with other innovative regions and thereby bolsters its global competitiveness.

**How Are We Doing?**

With a net increase of 38,097 people, Silicon Valley’s population increased by 1.5% in 2007. Since 2005, the region has had three consecutive years of expanding growth and has surpassed the State’s growth rate for the second time in over a decade. Driving this increase is the change in net migration, which almost doubled from 8,404 to 15,163 in 2007—the second year with positive net migration since 2000. Net migration includes all legal foreign immigrants, residents who left the state to live abroad, and the balance of hundreds of thousands of people moving to and from the region from within the United States.

The recent shift in net migration is due primarily to substantially lower domestic out-migration; about 75% fewer people left Silicon Valley in 2007 than 2006. This pattern is much different than the net total of 30,000 to 40,000 people who left annually between 2001 and 2003. Even during the economic downturn, net foreign immigration has remained a constant source of new population and increased by 11% in 2007. Natural population change due to births and deaths has also remained stable.

Silicon Valley has cultural ties around the world. Thirty-five percent of the region’s residents were born in another country and they are more than twice as likely as U.S. residents to speak a language other than English. By 2006, almost half of the population over 5 years of age in these Counties (48%) speaks a language other than English at home—up from 45% in 2002. Moreover, this measure of language diversity has been growing at a faster rate in Silicon Valley than in California or the nation as a whole. Among those who speak a language other than English at home, the largest proportion speak an Asian or Pacific Islander language (49%), just ahead of the share of Spanish speakers (40%).

An indication of the Silicon Valley’s ability to attract and grow highly-educated talent is its educational attainment level. More than four in ten residents over age 25 (44%) have at least a four-year degree, compared to 27% nationally. And two-thirds (68%) has had at least some college (including associate degrees and professional certifications). Roughly one-third (32%) has no more than a high school education, compared to 46% of the U.S. population.

The area’s universities are an important magnet for and source of highly-skilled talent. The number of science and engineering (S&E) degrees conferred by universities in or near Silicon Valley increased 25% between 1995 and 2005. Over this period, the proportion of S&E degrees received by foreign students rose from 13% to 17%—much higher than the State as a whole or the nation. In absolute numbers, S&E degrees conferred to foreign students in the region rose by 3% in the most recent year.

---

**Population Change**

Components of Population Change
Santa Clara and San Mateo Counties

- Natural Change
- Net Migration
- Net Change

* Provisional population estimates for 2007

Source: California Department of Finance

Analysis: CEI

<table>
<thead>
<tr>
<th>Year</th>
<th>Silicon Valley</th>
<th>California</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>2,516,532</td>
<td>37,332,976</td>
</tr>
<tr>
<td>2007</td>
<td>2,554,629</td>
<td>37,771,431</td>
</tr>
<tr>
<td>% Change</td>
<td>+1.5%</td>
<td>+1.2%</td>
</tr>
</tbody>
</table>

**Net Migration Flows**

Foreign and Domestic Migration
Santa Clara and San Mateo Counties

* Provisional population estimates for 2007

Source: California Department of Finance

Analysis: CEI

Net Migration
Silicon Valley
2006-2007

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>-2,524</td>
</tr>
<tr>
<td>Foreign</td>
<td>+17,687</td>
</tr>
</tbody>
</table>
Talent Flows and Diversity

**Educational Attainment**

- **United States**
  - Graduate or Professional Degree: 10%
  - Bachelor’s Degree: 17%
  - Some College*: 27%
  - High School Graduate: 30%
  - Less Than High School: 16%

- **Silicon Valley**
  - Graduate or Professional Degree: 18%
  - Bachelor’s Degree: 26%
  - Some College*: 24%
  - High School Graduate: 19%
  - Less Than High School: 13%

* Some College includes: Less than 1 year of college, Some college, 1 or more years, no degree, Associates degree, Professional certification

Source: U.S. Census Bureau, American Community Survey
Analysis: CEI

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<tr>
<th>Silicon Valley</th>
<th>United States</th>
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</thead>
<tbody>
<tr>
<td>Some college or more</td>
<td>68%</td>
</tr>
<tr>
<td>Bachelor’s Degree or higher</td>
<td>44%</td>
</tr>
</tbody>
</table>

**Foreign Students**

**S&E Degrees Conferred to Foreign Students in Silicon Valley**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
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<tbody>
<tr>
<td>2004</td>
<td>11,449</td>
</tr>
<tr>
<td>2005</td>
<td>+3%</td>
</tr>
</tbody>
</table>

**Percentage of Degrees in Engineering and Sciences Conferred to Temporary Nonpermanent Residents**
Silicon Valley, California, U.S.

- **Silicon Valley**
- **California**
- **United States**

Note: Data for 1999 not available
Source: National Center for Education Statistics, IPEDS
Analysis: CEI
The chart illustrates the growing language diversity in Silicon Valley and the United States from 2002 to 2006. The languages are categorized as United States, California, and Silicon Valley. The chart shows that the percentage of people speaking a language other than English at home has increased over time. For example, in 2002, 18% of people in Silicon Valley spoke a language other than English, while in 2006, 43% did.

The Languages Spoken at Home for Population 5 Years and Older chart shows the distribution of languages spoken at home in Santa Clara and San Mateo Counties in 2006. The chart includes languages such as Spanish (40%), Asian (49%), European (7%), and others (20%). The source of the data is the U.S. Census Bureau, American Community Survey Analysis CII.
Silicon Valley continues to be a strong player in innovation. Venture capital investment and patent activity are growing in clean technology. Broadband speed and penetration lag other global innovative regions.

**Why Is This Important?**

Innovation drives the economic success of Silicon Valley. More than just in technology products, innovation includes advances in business processes and business models. The ability to generate new ideas, products and processes is an important source of regional competitive advantage. To measure innovation, we examine the investment in innovation, the generation of new ideas, and the value-added across the economy. Additionally, tracking the areas of venture capital investment over time provides valuable insight into the region’s longer term direction of development.

Global connectivity is a measure of a region’s innovative capacity and global competitiveness. The early adoption of technology is critical for achieving and maintaining a competitive edge, and broadband internet allows better access to newer technologies and quickly developing web-based services.

**How Are We Doing?**

Silicon Valley continues to push the frontiers of innovation. Value added per employee rose for the sixth straight year. For the second year value-added surpassed the previous high reached during the peak of the dotcom boom in 2000—suggesting widespread productivity gains.

Patent activity reached all-time highs in 2006. The region’s cities now account for 11% of the top 20 U.S. cities for patent registrations. Patents per capita also took a huge leap in 2006—up 24% in one year—the biggest increase in a decade. Silicon Valley exceeded the nation by more than 14 times. In the realm of green technology, the Valley accounted for 23% of all California’s patents in 2006. Activity is primarily in batteries, solar technology and fuel cells.

Silicon Valley is closely connected to innovative regions around the world allowing it to leverage talent and resources located outside the region. Collaboration with foreign inventors grew 3% as measured by patent registrations with local and foreign inventors. Further, the region’s firms in the most globally competitive industries such as software and high-tech manufacturing have established affiliates in the fastest growing regions of Asia and in Europe with vast pools of talent.

Venture capital (VC) investments are up almost 11%, comparing totals from the first three quarters of 2006 and 2007. If the current trend continues, Silicon Valley will for the first time receive 30% of the nation’s total venture capital funding—a much higher share than during the dotcom boom. Tracking VC investment trends, Silicon Valley’s top investment growth is in energy and in medical devices. Rebounding since the downturn, investment is growing again in telecom and networking equipment. Software continues to attract the most investment and is now followed by medical devices.

In Cleantech VC investment in 2007, Silicon Valley alone accounted for 62% of California and 21% of U.S. investment. Over 2006, investment in the Valley expanded by 94% and in the rest of the State only by 7%. The bulk of this investment was in energy generation followed by transportation.

**Value Added**

Value Added per Employee
Santa Clara & San Mateo Counties and U.S.

<table>
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<tr>
<th>Year</th>
<th>Silicon Valley</th>
<th>U.S.</th>
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<tbody>
<tr>
<td>2005</td>
<td>140,000</td>
<td>120,000</td>
</tr>
<tr>
<td>2006</td>
<td>160,000</td>
<td>130,000</td>
</tr>
<tr>
<td>2007</td>
<td>180,000</td>
<td>140,000</td>
</tr>
</tbody>
</table>

**Rate of Increase**

2006-2007
Silicon Valley 2.0%
U.S. 1.4%

**Global Patent Collaboration**

Patents with Silicon Valley & Foreign Co-Inventors

<table>
<thead>
<tr>
<th>Number of Patents</th>
<th>0%</th>
<th>15%</th>
<th>33%</th>
<th>50%</th>
<th>67%</th>
<th>85%</th>
<th>95%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Patents with SV Co-Inventors</td>
<td>0%</td>
<td>7%</td>
<td>15%</td>
<td>23%</td>
<td>30%</td>
<td>44%</td>
<td>65%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Patent counts reported here refer to all patents with an inventor from Silicon Valley, regardless of sequence number of inventor

Silicon Valley’s inventors are collaborating with foreign inventors at an increased rate:

- 5% 2005
- 8% 2006

Source: U.S. Patent & Trademark Office
Analysis: CEI
Silicon Valley continues to increase its share of all CA and U.S. patents. 46.8% of CA patents and 11.6% of U.S. patents.

Silicon Valley cities make up more than half of the top 20 U.S. cities in patents registered.

In 2006, Silicon Valley accounted for 23% of all green technology patents in California.
Innovation

**Venture Capital Dollars**

Total Venture Capital Financing in Silicon Valley Firms

- Silicon Valley
- United States

<table>
<thead>
<tr>
<th>Year</th>
<th>Silicon Valley</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>$400 billion</td>
<td>$120 billion</td>
</tr>
<tr>
<td>2009</td>
<td>$200 billion</td>
<td>$80 billion</td>
</tr>
<tr>
<td>2008</td>
<td>$100 billion</td>
<td>$40 billion</td>
</tr>
<tr>
<td>2007</td>
<td>$50 billion</td>
<td>$20 billion</td>
</tr>
<tr>
<td>2006</td>
<td>$20 billion</td>
<td>$10 billion</td>
</tr>
</tbody>
</table>

- Source: PricewaterhouseCoopers/National Venture Capital Association
- MoneyTree™ Report based on data from Thompson Financial Analysis CBI

**Innovation**

- **Top Growers**
  - Industrial/Energy
  - Medical Devices & Equipment

- **Rebounding**
  - Telecom
  - Networking & Equipment

- **Medical Devices & Equipment** replaced **Semiconductors** as 2nd largest share of total VC investment in Silicon Valley

**Share of US Venture Capital**

- **Silicon Valley Share of US Venture Capital Investments**

<table>
<thead>
<tr>
<th>Year</th>
<th>Silicon Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>27%</td>
</tr>
<tr>
<td>2006</td>
<td>29%</td>
</tr>
<tr>
<td>2005</td>
<td>28%</td>
</tr>
<tr>
<td>2004</td>
<td>25%</td>
</tr>
<tr>
<td>2003</td>
<td>20%</td>
</tr>
<tr>
<td>2002</td>
<td>15%</td>
</tr>
<tr>
<td>2001</td>
<td>10%</td>
</tr>
<tr>
<td>2000</td>
<td>5%</td>
</tr>
<tr>
<td>1999</td>
<td>3%</td>
</tr>
</tbody>
</table>

- Source: PricewaterhouseCoopers/National Venture Capital Association
- MoneyTree™ Report based on data from Thompson Financial Analysis CBI

**Venture Capital by Industry**

*Highlighted fields indicate longer term areas of growth*
**Energy Generation** makes up the bulk of cleantech investment in the Valley.

![Cleantech VC Investment by Segment](chart)

**Venture Capital Investment in Clean Technology**

<table>
<thead>
<tr>
<th></th>
<th>Silicon Valley &amp; Rest of California</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2005</strong></td>
<td>硅谷 (1200万美元)</td>
</tr>
<tr>
<td><strong>2006</strong></td>
<td>silicon Valley (1400万美元)</td>
</tr>
<tr>
<td><strong>2007</strong></td>
<td>Rest of CA (1000万美元)</td>
</tr>
</tbody>
</table>

Source: Cleantech Group, LLC

**Venture Capital Investment in Clean Technology**

**Cleantech investment**

2006-2007

- Silicon Valley: +94%
- Rest of California: +7%

**Silicon Valley** cleantech investment

- 62% of CA
- 21% of U.S.

Source: Cleantech Group, LLC

**SV Firms with Foreign Operations**

**Silicon Valley** manufacturing and software firms are the most likely to have affiliates in other countries.

Of the top ten countries with Silicon Valley affiliates, half are in Asia.

![SV Firms with Foreign Operations](chart)
With 51% of households subscribing to broadband, the Bay Area is well ahead of the nation as a whole with 39%. Globally, the Bay Area lags South Korea, Japan and many European countries in household penetration and speed of broadband. Broadband connectivity is defined as download speeds of at least 200 kbit/s by the U.S. Federal Communications Commission and of at least 256 kbit/s by the Organisation for Economic Co-Operation and Development (OECD).
Global Broadband Subscribers
Percentage of Households, 2006

- United States: 39%
- Canada: 50%
- Japan: 65%
- Korea: 94%
- Other countries: 10% to 72%

Notes:
- Broadband download speeds equal to, or faster than, 256 kbit/sec. (Source: U.S. FCC)
- 2005 data
- Broadband download speeds equal to, or faster than, 200 kbit/sec. (Source: U.S. FCC)

Sources:
- San Francisco Public Policy Institute of California. Survey results, Forrester Research.
Employment growth over last year remained positive but slowed in 2007. Nonetheless Silicon Valley’s employment growth outpaced that of the State and U.S. Structurally, employment shares are shifting to software and creative & innovation services. Establishments and employment in green technology and services are growing in the region.

Why Is This Important?

Tracking job gains and losses is a basic measure of economic health. Shifting employment across industries suggest structural changes in Silicon Valley’s economic composition. Over the course of the business cycle, employment shifts across industries and permanent shifts as entire industries grow or shrink expose structural changes in Silicon Valley’s economic composition. Recent attention has been focused on the growing activities in the “green economy.” While establishment-based employment 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-base workforce.

How Are We Doing?

For the third year in a row, the Valley experienced job gains - growing by 1.7% over the previous year (2006 Q2). For the first time, employment data reported in the 2008 index reflect an expanded geographic definition of Silicon Valley including all of San Mateo County. Final estimates for the first quarter of 2007 over 2006 show a gain of 28,000 jobs and regional growth of 2.1% which is well ahead of 0.9% growth in the rest of the State and 1.4% in the U.S.

Structural change is evident in the shift in employment distribution across the region’s core cluster industries. From 1996 to 2006, the share of core cluster employment in semiconductors dropped 8% and 5% in hardware as well as electronic components. Employment shares in software and services in design and innovation support have expanded the most increasing 13% and 4% respectively. Employment shares in biomedical grew by 1%.

Growth in “green establishments,” businesses producing products and offering services that directly or indirectly reduce environmental degradation and specifically the generation of greenhouse gas emissions, is taking place throughout the State. The analysis of “green establishments” is based on the definition of “cleantech” developed by the Cleantech Network encompassing new technology and processes across a range of industries that enhance efficiency, reduce or eliminate negative ecological impact, and improve the productive and responsible use of the natural resources. See for specific industry segments. Although establishment growth is similar, since 2000 Silicon Valley’s number of green jobs has increased by 41% compared to 17% in the rest of the State. This suggests that the region’s green establishments are larger. Of the Valley’s green establishments, 43% are concentrated in energy generation (e.g. solar and wind product manufacturing and installation services) and 39% in energy efficiency (e.g. manufacturing and sales of products and materials that conserve energy).

2 For the first time, employment data reported in the 2008 Index reflect an expanded geographic definition of Silicon Valley including all of San Mateo County.
3 The analysis of “green establishments” is based on the definition of “cleantech” developed by the Cleantech Network encompassing new technology and processes across a range of industries that enhance efficiency, reduce or eliminate negative ecological impact, and improve the productive and responsible use of the natural resources. See www.cleantechnetwork.com for specific industry segments.
While incomes appear to be rising in Silicon Valley, the cost of living in the region is also on the rise.

**Why Is This Important?**

Earnings growth is as important a measure of Silicon Valley’s economic vitality as job growth. A variety of income measures presented together provides an indication of regional prosperity and the distribution of prosperity.

Real per capita income rises when a region generates wealth faster that its population increases. Household income distribution tells us more about concentrations of income, and if economic gains are reaching all members of the region. The median household income is the income value at the middle of all income values.

**How Are We Doing?**

Real per capita income in Silicon Valley is 57% higher than the U.S. average. The cost of living—including housing—is 47% higher than that of the nation. Since 2003, the region’s real per capita income has grown faster than that of the United States as a whole—rising 12% compared to 10% for the nation. Silicon Valley’s real per capita income was only higher in the peak year of 2000.

Median household income increased modestly in Silicon Valley in 2006. Between 2005 and 2006, real median household income rose 2% and now stands at $82,486. In contrast, U.S. household income has remained stagnant since 2000. While median household income has been growing in the region, living expenses such as housing, food, and transportation are high. According to the affordability benchmark developed by the California Budget Project, a two-worker family in the Bay Area needs to earn $77,076 to cover the basic family budget. This means that in order for a two-worker family to reach the threshold of middle class living, at least one worker must have a mid-wage level job.

Overall, Silicon Valley has a much higher proportion of households earning $100,000 or more (39%) compared to either California (25%) or the nation as a whole (18%). The region also has a much lower share of households making less than $35,000 (21%) than the State (31%) or the nation (36%). The distribution of household income is trending upwards, as it is in both California and the United States as a whole. The percentage of households earning less than $35,000 in Silicon Valley has been declining since 2004, while the share of households making $100,000 or more has been increasing since 2003. The proportion of households earning between $35,000 and $100,000 has held relatively steady during this time.

*The California Budget Project defines the Bay Area as Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma Counties.*

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**Real Per Capita Income**

2007 Dollars — Santa Clara & San Mateo Counties and U.S.

- **Silicon Valley**
- **United States**

**Increase since 2003**

- **Silicon Valley** 12%
- **United States** 10%

**Income Distribution**

*Source: American Community Survey, U.S. Census Bureau Analysis: CEI*
**Median Household Income**

2007 Dollars — Santa Clara & San Mateo Counties and U.S.

**Change 2005-2006**

- **Silicon Valley**: 2%
- **United States**: +1.5%

Source: American Community Survey, U.S. Census Bureau
Analysis: CEI

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**Relative Cost of Living**

Relative to the U.S.
San Jose and San Francisco

The cost of living in Silicon Valley including housing is 47% higher than the nation

Source: Economy.com
Preparing for Economic Success

High school graduation rates dropped for all racial and ethnic groups except Latinos. Across all groups, fewer students are achieving UC/CSU requirements.

Why Is This Important?

The future success of the region’s young people in a knowledge-based economy will be determined largely by how well elementary and secondary education in Silicon Valley prepares its students for higher levels of education. In 2004, school funding in Santa Clara County was 88% of the national average. Although higher for California (93%), Santa Clara County has been bridging the gap with the nation at a faster pace than the State.

How well the region is preparing its youth for postsecondary education can be observed in graduation rates and the share of graduates completing courses required for entrance to the University of California (UC) or California State University (CSU). Likewise, high school drop-outs are significantly more likely to be unemployed and earn less when they are employed than high school graduates.

How Are We Doing?

Preliminary figures for 2006-07 indicate that Silicon Valley’s high school graduation rate dropped 3% to 84% over 2005-06. Every district and the County of Santa Clara experienced an overall decline in the number of graduates. The share of graduates who met UC/CSU entrance requirements dropped slightly.

The distribution of graduates meeting UC/CSU requirements by race/ethnicity reveals that some groups are less prepared to enter college upon graduation. Only 23% of Latino and 22% of African American graduates met UC/CSU requirements compared to 62% of Asians and 52% of Whites.

Overall, drop-out rates of 13% were similar to the previous year. Although Latino students are most likely of all groups to leave school before graduating, drop-out rates for this group are slowing.
Graduates with UC/CSU Required Courses
Share of Graduates Who Meet UC/CSU Requirements by Ethnicity
Silicon Valley High Schools, 2006-2007

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>62%</td>
</tr>
<tr>
<td>White</td>
<td>52%</td>
</tr>
<tr>
<td>Filipino</td>
<td>38%</td>
</tr>
<tr>
<td>American Indian</td>
<td>38%</td>
</tr>
<tr>
<td>African American</td>
<td>22%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>22%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>23%</td>
</tr>
</tbody>
</table>

Source: California Department of Education, Silicon Valley School Districts

High School Dropout Rates
Silicon Valley High Schools

<table>
<thead>
<tr>
<th>Year</th>
<th>Dropout Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989-99</td>
<td>8%</td>
</tr>
<tr>
<td>1999-00</td>
<td>8%</td>
</tr>
<tr>
<td>2000-01</td>
<td>7%</td>
</tr>
<tr>
<td>2001-02</td>
<td>5%</td>
</tr>
<tr>
<td>2002-03</td>
<td>7%</td>
</tr>
<tr>
<td>2003-04</td>
<td>8%</td>
</tr>
<tr>
<td>2004-05</td>
<td>13%</td>
</tr>
<tr>
<td>2005-06</td>
<td>12%</td>
</tr>
<tr>
<td>2006-07</td>
<td>13%</td>
</tr>
</tbody>
</table>

*Preliminary Data
Source: California Department of Education, Silicon Valley School Districts
Early Education

While kindergarten readiness is modestly improving, third-grade reading scores dropped slightly, and differences by ethnicity persist.

**Why Is This Important?**

When children are subject to positive early childhood experiences that enhance their physical, social, emotional and academic wellbeing and skills, they enter school ready to learn and are more likely to perform better in later school years. Preschool attendance is linked to higher kindergarten readiness. How prepared children are when they enter kindergarten relative to teacher expectations is an indication of children’s readiness for school and future school success.

Children’s school success is in part a function of increasing literacy. 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 when it comes to academic achievement (Snow, Burns and Griffin, 1998). Success and confidence in reading are critical to long-term success in school.

**How Are We Doing?**

Silicon Valley’s very young children typically experience a variety of care settings before entering kindergarten, and over half are cared for by a stay-at-home parent. The percentage of in-coming kindergartners with some preschool experienced increased by 7% in 2006 over 2004.

Although fewer than half of Santa Clara County’s preschoolers were considered prepared for kindergarten in terms of their overall physical, social and academic readiness, the proportion of children deemed “significantly below” the desired levels of proficiency for overall readiness dropped from 22% to 16% of all kindergartners between 2005 and 2006 (data was not collected for San Mateo County during this period).

Children were most prepared in the areas of self-care and motor skills and least prepared in kindergarten academics and self-regulation. Kindergarten teachers identify self-regulation skills (e.g., pays attention, controls impulses, plays cooperatively) as the skills children need most when they enter school. In 2006, more than one in five children fell significantly below teacher expectations in terms of self-regulation skills. Kindergarten Academics reflects a child’s ability to engage with books and recognize letters among other skills. The share lacking kindergarten academics also dropped from 20% to 11% between 2005 and 2006.

The reading proficiency of Silicon Valley third graders decreased slightly in 2007—after experiencing increases the prior two years. In 2007, the share of students scoring above the national median decreased from 49% to 48%. The percentage in the lowest-scoring quartile rose from 26% to 28% of third graders.

Large disparities exist by race and ethnicity. For example, forty-six percent of Latino third-graders scored in the lowest quartile—and eight in ten (78%) scored below the national median for reading proficiency. In contrast, seven in ten (70%) of white students scored above the national median—with 39% scoring in the top quartile.

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*Santa Clara County School Readiness Assessment 2006-2007*
### Third Grade Reading Ability

#### Share of Third Graders Scoring at National Benchmarks on CAT/6 Reading Test

<table>
<thead>
<tr>
<th>Year</th>
<th>Top Quartile</th>
<th>Between Median &amp; Top Quartile</th>
<th>Between Median &amp; Bottom Quartile</th>
<th>Bottom Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>22%</td>
<td>26%</td>
<td>29%</td>
<td>28%</td>
</tr>
<tr>
<td>2008</td>
<td>21%</td>
<td>25%</td>
<td>25%</td>
<td>26%</td>
</tr>
<tr>
<td>2009</td>
<td>25%</td>
<td>26%</td>
<td>26%</td>
<td>26%</td>
</tr>
<tr>
<td>2010</td>
<td>23%</td>
<td>25%</td>
<td>26%</td>
<td>26%</td>
</tr>
<tr>
<td>2011</td>
<td>22%</td>
<td>26%</td>
<td>26%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Source: California Department of Education
Analysis: CEI

### Reading Proficiency by Race/Ethnicity

#### Scoring at National Benchmarks on CAT/6 Reading Test
Santa Clara County, 2007

*Cambodian, Samoan and Lao not included due to small number of observations.
Source: California Department of Education
Analysis: CEI
Arts and Culture

Silicon Valley’s arts & culture organizations are growing in number but they continue to face increasing fiscal constraints. While revenues and expenses have dropped by double digits, contributions from private and public sources have dropped minimally.

**Why Is This Important?**

Art and culture are integral to Silicon Valley’s economic and civic future. Participation in arts and cultural activities spurs creativity and increases exposure to diverse people, ideas and perspectives. Creative expression is essential for an economy based on innovation. How well the region’s arts nonprofits are flourishing in numbers and financially gives some indication for the levels of participation and community support of arts activities.

**How Are We Doing?**

The region’s arts & cultural nonprofits continue to grow in number. Since 2000, the number of arts nonprofits expanded by 37% in the Valley which is at a faster rate than in the rest of the State (28%). Typically, 50% of revenues come from private and public contributions, and peaked at 59% in 2001 at the height of the economic expansion. In comparison with arts organizations in the State as a whole, the Valley’s arts groups typically generate more of their resources from earned income. Although total median revenue for Silicon Valley’s arts & cultural nonprofits has declined by 13% since 1995, median contributions have dropped only by 3%.

**Growth 2000-2005:**

+37% Silicon Valley

+28% Rest of CA

Source: National Center for Charitable Statistics, Core Trend File Analysis: CEI
**Private & Public Contributions to the Arts**

### as Share of Total Nonprofit Revenue
Silicon Valley & California

- **Percentage of Revenue From Contributions:**
  - 49% Silicon Valley
  - 58% California

**Investing in the Arts**

**Arts & Cultural Nonprofit Organizations**
Median Revenue, Expenses and Contributions
Silicon Valley

- **-13% Revenues**
- **-17% Expenses**
- **-03% Contributions**

*Includes contributions made by individuals and groups as well as government grants

Source: National Center for Charitable Statistics, Core Trend File
Analysis: CEI
Core indicators for the health of the region’s residents suggest quality of health is not improving. While access to health insurance has improved for some population groups, overall access is narrowing.

**Why Is This Important?**

Poor health outcomes generally correlate with poverty and poor access to preventative health care 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 instance, 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.

Over the past two decades, obesity has risen dramatically in the United States and its occurrence is not just limited to adults—the percentage of young people who are overweight has more than tripled since 1980. Being overweight or obese increases the risk of many diseases and health conditions, including Type 2 diabetes, hypertension, coronary heart disease, stroke and some type of cancers. These conditions have a significant economic impact on the nation’s health care system as well as the overall economy due to declines in productivity.

**How Are We Doing?**

The rate of immunization for children ages 19-35 months has not improved over that last decade in Santa Clara County or the state as a whole. Progress is not being made toward the Healthy People 2010 Goal of 90% of the U.S. Department of Health and Human Services.

Access to health insurance varies widely within the Silicon Valley population. Remaining constant since 2001, 96% of residents primarily speaking English at home have health insurance. Chinese speakers made the most positive gains in coverage rates from 74% in 2001 to 93% four years later. Coverage rates for Spanish and Vietnamese speakers have declined since 2001, dropping to roughly seven in ten residents by 2005. English and Chinese speakers are also more likely to have employer-based coverage.

Asthma continues to affect more than one in ten Silicon Valley residents. And the proportion of the population in Santa Clara and San Mateo Counties diagnosed with asthma has grown since 2001.

Since 1999, the proportion of youth who fall into the “Health Fitness Zone” has improved primarily for younger students. The percentage of Fifth Graders who meet the fitness zone criteria increased 11% since 1999. This measure is based on national standards developed by the Cooper Institute for Aerobics Research to represent a level of fitness that offers some degree of protection against diseases that result from sedentary living.

---

*The appearance of a drop in immunization rates in 2006 is described by the U.S. Center for Disease Control as not statistically significant.*

**Access to Health Insurance**

Health Insurance Coverage by Language Spoken at Home
Santa Clara and San Mateo Counties

<table>
<thead>
<tr>
<th>Language</th>
<th>2001</th>
<th>2003</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>100%</td>
<td>85%</td>
<td>80%</td>
</tr>
<tr>
<td>Chinese</td>
<td>100%</td>
<td>80%</td>
<td>70%</td>
</tr>
<tr>
<td>Other</td>
<td>90%</td>
<td>75%</td>
<td>70%</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>65%</td>
<td>60%</td>
<td>70%</td>
</tr>
<tr>
<td>Spanish</td>
<td>50%</td>
<td>60%</td>
<td>70%</td>
</tr>
</tbody>
</table>

Source: UCLA Center for Health Policy Research, California Health Interview Survey
Analysis: CBI

**Coverage Rates**

2001–2005

<table>
<thead>
<tr>
<th>Language</th>
<th>Coverage Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish</td>
<td>-20%</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>-8%</td>
</tr>
<tr>
<td>Chinese</td>
<td>+19%</td>
</tr>
</tbody>
</table>

Source: UCLA Center for Health Policy Research, California Health Interview Survey
Analysis: CBI

*For residents under 65 years old

**Obesity**

Overweight or Obese* Adolescents and Adults
Silicon Valley and California

<table>
<thead>
<tr>
<th>Year</th>
<th>Silicon Valley</th>
<th>California</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>45%</td>
<td>50%</td>
</tr>
<tr>
<td>2003</td>
<td>46%</td>
<td>51%</td>
</tr>
</tbody>
</table>

*For adults, “Overweight or obese” includes the respondents who have a BMI of 25 or greater. For adolescents, “Overweight or obese” includes the respondents who have a BMI in the highest 50th percentile with respect to their age and gender.

Source: UCLA Center for Health Policy Research, California Health Interview Survey
Analysis: CBI

**Asthma Cases**

Share of Population with Asthma*
Santa Clara and San Mateo Counties

<table>
<thead>
<tr>
<th>Year</th>
<th>2001</th>
<th>2003</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>11%</td>
<td>13%</td>
<td>12%</td>
<td></td>
</tr>
</tbody>
</table>

Asthma diagnoses 2003-2005: -1%

*All adults and children 1 year of age or older who have ever been diagnosed with asthma.

Source: UCLA Center for Health Policy Research, California Health Interview Survey
Analysis: CBI

---

**Health Insurance Coverage by Language Spoken at Home**

- **English**: 100% in 2001, 85% in 2003, 80% in 2005
- **Chinese**: 100% in 2001, 80% in 2003, 70% in 2005
- **Other**: 90% in 2001, 75% in 2003, 70% in 2005
- **Vietnamese**: 65% in 2001, 60% in 2003, 70% in 2005
- **Spanish**: 50% in 2001, 60% in 2003, 70% in 2005

Source: UCLA Center for Health Policy Research, California Health Interview Survey
Analysis: CBI

---

**Coverage Rates**

- **Spanish**: -20%
- **Vietnamese**: -8%
- **Chinese**: +19%

Source: UCLA Center for Health Policy Research, California Health Interview Survey
Analysis: CBI

*For residents under 65 years old

---

**Obesity**

- **Silicon Valley and California**, 2001: 45%, 2003: 46%, 2005: 50%
- **Silicon Valley and California**, 2001: 50%, 2003: 51%, 2005: 51%

Source: UCLA Center for Health Policy Research, California Health Interview Survey
Analysis: CBI

---

**Asthma Cases**


Asthma diagnoses 2003-2005: -1%

Source: UCLA Center for Health Policy Research, California Health Interview Survey
Analysis: CBI

---

All adults and children 1 year of age or older who have ever been diagnosed with asthma.
Juvenile offenses as well as substantiated cases of child abuse are on the rise each at a faster rate than in the State as a whole. While youth drug offenses are up, county treatment facilities are providing services to larger numbers of youth and adult clients.

**Why is this important?**

The level of crime is a significant factor affecting the quality of life in a community. Incidence of crime not only poses an economic burden, but also erodes our sense of community by creating fear, frustration and instability. Occurrence of child abuse is extremely damaging to the child and increases the likelihood of drug abuse, poor education performance and of criminality later in life. Research has also linked adverse childhood experiences, such as child abuse/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 their homes.

**How are we doing?**

The rate of substantiated cases of child abuse in Silicon Valley rose again in 2006, while the rate for California continued to decline slightly. California’s rate is much higher than Silicon Valley’s, but this gap has been steadily narrowing since 2002. In fact, the rate of child abuse in Silicon Valley has increased every year since 2003.

The rate of juvenile felony offenses rose in Silicon Valley for the fourth consecutive year and remains on par with California. Prior to 2005, Silicon Valley’s rate of juvenile felony offenses was consistently below that of California every year since 1996—the first year this measure was included in the Index of Silicon Valley. A subset of overall juvenile felony offenses, juvenile felony drug offenses have now increased two years in a row (2006 and 2007) after four consecutive years of decline.

In contrast, the region’s rate of adult felony offenses continues to be well below that of California—and decreased in 2006 for the first time since 2003. The most recent data on adult felony drug offenses (FY2007) also indicate a drop for the first time since 2003.

Generally, there has been an increase in both adult and juveniles being served by county drug and alcohol rehabilitation programs relative to 2000. This can be explained in part by the passage of Proposition 36 in 2000, which is a law that diverts non-violent defendants, probationers and parolees charged with simple drug possession or drug use offenses, from incarceration into substance abuse treatment programs. Treatment is paid for primarily through state funding and is provided in several formats, ranging from non-residential to residential to acute care services.

Silicon Valley juvenile felony offenses per 100,000 increased 23% since 2002 compared to a 6% decline in California.
Drug Offenses & Services – Adult

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

FY2006-FY2007
Adult drug offenses
- 6%
Adult drug and rehabilitation clients
+ 6%

Drug Offenses & Services – Juvenile

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

FY2006-FY2007
Juvenile drug offenses
+ 12%
Juvenile drug and rehabilitation clients
+ 8%

Note: Felony drug offenses data are based on calendar years 1999 through 2006.
Source: California Department of Justice; Santa Clara County Department of Alcohol & Drug Services; Alcohol & Drug Services Research Institute; San Mateo County Human Services Agency, Business Systems Group.
Environmental quality directly affects the health of all residents and the ecosystem in the Silicon Valley region, which is in turn affected by the choices that residents make about how to live—how we choose to access work, other people, goods and services; where we build our homes; how we use our natural resources; and how we enforce environmental guidelines.

Preserving open space protects natural habitats, provides recreational opportunities, focuses development, and maintains the visual appeal of our region. Protected lands include habitat and wildlife preserves, waterways, agricultural lands, flood control properties, and parks.

Water is one of the region’s most precious resources, serving a multitude of needs, including drinking, recreation, supporting aquatic life and habitat, and agricultural and industrial uses. Water is also a limited resource because water supply is subject to changes in climate and state and federal regulations. Sustainability in the long-run requires that households, workplaces and agricultural operations efficiently use and reuse water.

The modes of transportation we use to access work, other people, goods, and services, including the type of cars we drive, impact the quality of our air and the region’s transportation infrastructure. Motor vehicles are the major source of air pollution for the Bay Area. By utilizing alternative modes of transportation, such as public transit and walking, as well as choosing vehicles that are more fuel efficient or use alternative sources of fuel, residents can reduce their ecological footprint.

Shifting from carbon-based fuels to renewable energy sources and reducing consumption together have the potential for wide-reaching impact on our environmental quality in terms of local air quality and global climate change.

Open space and the share that is accessible to the public continue to increase, due in part to concerted efforts by the Mid-Peninsula Regional Open Space District and the Land Trust of Santa Clara County. From 2002 to 2007, protected open space in Silicon Valley grew by 5% or 10,074 acres. Even more land is becoming accessible to the public: protected accessible lands increased by 13% or 17,462 acres in the past five years. The region has added protected open space and protected accessible lands at a much higher rate than urban/developed land, which grew just over 1% between 2002 and 2007.

With the exception of FY 2003-2004, total per capita water-use in Silicon Valley has declined by 6% since 2000. Almost doubling since 2000, 3.5% of total consumption is from recycled water. Years with significant precipitation result in lower water-use largely due to landscaping needs. However, the increase in recycled water-use suggests that conservation efforts could also be contributing to changing patterns in water-use.

Residential electricity consumption has risen in Silicon Valley. Since 2000 per capita residential consumption increased by 5.8% in Silicon Valley while in the rest of the State it increased by only 1.8%. Increased residential consumption in the State is related to the energy required to cool increasingly larger homes and run the growing number and size of household electronics.

The region is producing more renewable energy. As of 2007, with about 7% of the State’s population, Silicon Valley accounts for 13% of the renewable energy produced by solar and wind systems in California. Moreover; between 2006 and 2007, the region increased its amount of renewable energy (as measured by kilowatts added through approved state rebates) by 21%—faster than California’s 17% gain.

From 2002 to 2007 open space increased 5% and accessible protected lands increased 13%
### Renewable Energy

**Growth in kWatts Produced by Solar & Wind Systems and Share of CA Total**

*Cumulative kW*

Silicon Valley

<table>
<thead>
<tr>
<th>Year Approved</th>
<th>Approved kWatts</th>
<th>Share of CA Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>18,000</td>
<td>0%</td>
</tr>
<tr>
<td>2007</td>
<td>16,000</td>
<td>2%</td>
</tr>
<tr>
<td>2008</td>
<td>14,000</td>
<td>6%</td>
</tr>
<tr>
<td>2009</td>
<td>12,000</td>
<td>8%</td>
</tr>
<tr>
<td>2010</td>
<td>10,000</td>
<td>10%</td>
</tr>
<tr>
<td>2011</td>
<td>8,000</td>
<td>12%</td>
</tr>
<tr>
<td>2012</td>
<td>6,000</td>
<td>14%</td>
</tr>
<tr>
<td>2013</td>
<td>4,000</td>
<td>16%</td>
</tr>
<tr>
<td>2014</td>
<td>2,000</td>
<td>18%</td>
</tr>
<tr>
<td>2015</td>
<td>0</td>
<td>20%</td>
</tr>
</tbody>
</table>

*As of September 22, 2007*

Source: California Energy Commission

### Photovoltaic and Wind

Cumulative kW added through approved rebates

<table>
<thead>
<tr>
<th>Year</th>
<th>Silicon Valley</th>
<th>California</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>14,213</td>
<td>116,377</td>
</tr>
<tr>
<td>2007</td>
<td>17,167</td>
<td>135,604</td>
</tr>
<tr>
<td>Increase</td>
<td>21%</td>
<td>17%</td>
</tr>
</tbody>
</table>

### Electricity Consumption

Residential Electricity Consumption per capita

Silicon Valley and the Rest of California

<table>
<thead>
<tr>
<th>Year</th>
<th>Silicon Valley</th>
<th>Rest of CA</th>
<th>Silicon Valley</th>
<th>Rest of CA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>2,500</td>
<td>1,500</td>
<td>2,000</td>
<td>1,000</td>
</tr>
<tr>
<td>2006</td>
<td>3,000</td>
<td>2,000</td>
<td>2,500</td>
<td>1,500</td>
</tr>
</tbody>
</table>

Source: California Energy Commission, California Department of Finance

### Water Resources

Gross Per Capita Consumption

Silicon Valley BAWSCA Members

<table>
<thead>
<tr>
<th>Year</th>
<th>Gross Per Capita Per Day</th>
<th>Recycled Share of Total Water Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>180</td>
<td>0%</td>
</tr>
<tr>
<td>2005</td>
<td>200</td>
<td>0%</td>
</tr>
<tr>
<td>2010</td>
<td>250</td>
<td>0%</td>
</tr>
<tr>
<td>2015</td>
<td>300</td>
<td>0%</td>
</tr>
</tbody>
</table>

Gross per capita consumption fell by 6% between 2000 and 2006 while the share of total water consumption that is recycled increased 2.2%
HOW ARE WE DOING?

Silicon Valley remains an automobile-dependent region, although this pattern may be slowly changing. Despite the fact that the total number of vehicles in Silicon Valley went up, total vehicle miles traveled has not increased since 2000. Some of this change is likely driven by higher gas prices in recent years, and some people have turned to alternatives. Transit ridership increased by 3.4% from 2006 to 2007. While most commuters still drive alone to work, in 2006 this figure reached its lowest level since 2002. By 2006, 25% of workers were employing some alternative to driving alone to work. The largest change in recent years has been in the share of commuters working from home. In 2006, roughly 53,000 residents worked from home—an increase of 46% since 2002 when about 36,400 Silicon Valley residents worked from home.

Although the region remains automobile-dependent, the fuel efficiency of vehicles is also gradually changing. The number of alternative fuel vehicles in Silicon Valley increased 57% from 2004 to 2005. By 2005, the share of operational vehicles in the region running on alternative fuels was 1.4%, up from 0.9% in 2004. The growth was due mainly to the increased use of hybrid vehicles: as of 2005, there were about 10,000 hybrid vehicles registered in Silicon Valley, or about 11% of the California total. In addition, the average fuel efficiency of passenger vehicles has been increasing every year since 2000— with a jump in the rate of increase in 2006. Overall, on a per capita basis, residents of Silicon Valley reduced their fuel consumption 9% between 2000 and 2006, while Californians as a whole maintained their consumption level.

Related to automobile use and fuel consumption, Silicon Valley has made significant improvements in ozone pollution, achieving a reduction of 75% in 2003 from 1998. In contrast, 2005 was the first year of progress for the State as a whole dropping by 10% from 1998 levels. From 2004 to 2005, the number of days exceeding state standards for ozone pollution dropped from 10 to 5 days.
3.4% increase in rides per capita from 2006 to 2007

Number of Rides Per Capita and Change in Revenue Hours on Regional Transportation System
Santa Clara and San Mateo Counties

* Estimate
Sources: Altamont Commuter Express, Caltrain, San/Trans, Valley Transportation Authority
Analysis: CBI

Means of Commute
Santa Clara and San Mateo Counties

SV Commuters 2005-2006
-1% driving alone
+1% public transit
+1% worked from home

*Means of transportation refers to the principal mode of travel or type of conveyance that the worker usually used to get from home to work during the reference week.
Source: U.S. Census Bureau, American Community Survey
Analysis: CBI
Hybrid vehicles in Silicon Valley make up 11% of all such vehicles in California.

The number of alternative fuel vehicles in Silicon Valley increased by 57% from 2004 to 2005.

Percent change in average miles per gallon 2000-2006:
- Silicon Valley: +0.6%
- California: +0.4%

*Passenger car vehicles include light duty autos, light duty trucks, and medium duty vehicles.
Source: California Air Resources Board
Analysis: CBI
**Fuel Consumption**

Per Capita Fuel Consumption*

Silicon Valley and the Rest of California

<table>
<thead>
<tr>
<th>Gallons of fuel per capita</th>
<th>Silicon Valley</th>
<th>Rest of California</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>498.4</td>
<td>496.9</td>
</tr>
<tr>
<td>50</td>
<td>454.7</td>
<td>496.7</td>
</tr>
<tr>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Fuel Consumption consists of gasoline and diesel fuel usage on all public roads
Source: California Department of Transportation
Analysis: CEI

**Percent Change**

Per Capita Fuel Consumption 2000-2006

- Silicon Valley: -9.00%
- Rest of California: -0.04%

**Air Quality**

Trends in Ozone Pollution Relative to 1998
Number of Days Exceeding State 8-Hour Standard

Silicon Valley and California

- Silicon Valley
- California

Number of days above
State 8-hour ozone standard

1998 – 19 days
2005 – 5 days

*Note: Silicon Valley includes data for San Mateo County and Santa Clara County
Source: California Air Resources Board, 2007 Air Quality Data DVD
Analysis: CEI
Land Use

The percentage of development near transit is growing. Non-residential development approved near transit surpassed approval elsewhere by a factor of five.

Why Is This Important?

By directing growth to already developed areas, local jurisdictions can reinvest in existing neighborhoods, use transportation systems more efficiently, 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, walkable, mixed-use communities linked by transit. This helps to reduce traffic congestion on freeways and preserve open space near urbanized areas. By creating mixed-use communities, Silicon Valley gives workers alternatives to driving alone and increases access to jobs.

How Are We Doing?

The average density of newly approved development remained high dropping slightly from last year’s record to 21 units per acre, over three times the density of approved development in 1998, the first year the Joint Venture Land Use Survey was conducted. The share of newly approved housing that will be near transit increased for the fourth year in a row jumping to 55% in 2007. This share is 9 percentage points lower than the peak in 2001, but 26 percentage points higher than the share approved in 1998. In 2007, approved non-residential net development near transit doubled over the prior year and exceeded other development by roughly five times.

Residential Density

Average Units Per Acre of Newly Approved Residential Development
Silicon Valley

Source: City Planning and Housing Department of Silicon Valley
Analysis: CEI

Density of newly approved housing dropped 7% from 2006 to 2007
Housing Near Transit

Share of New Housing Units Approved That Will Be Within 1/4 Mile of Rail Stations or Major Bus Corridors
Silicon Valley

55% of housing approved will be near transit

Share of housing that will be near transit increased 15% from 2006 to 2007

Source: City Planning and Housing Department of Silicon Valley Analysis: CII

Development Near Transit

Change in Non-Residential Development Near Transit
Silicon Valley

485,588 sq. feet of non-residential development that is far from transit

2,353,266 sq. feet of non-residential space near transit

Source: City Planning and Housing Departments of Silicon Valley Analysis: CII
Housing

Although ten percent of new housing in 2007 are affordable units, the cost of housing in the region is rising and foreclosures are skyrocketing.

Why Is This Important?
The affordability of housing affects a region’s ability to maintain a viable economy and high quality of life. Lack of affordable housing in a region encourages longer commutes, which diminish productivity, curtail family time and increase traffic congestion. Lack of affordable housing 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.

How Are We Doing?
The 571 new affordable units approved for construction in 2007 was 27% lower than in 2006, and the lowest number since the beginning of the survey in 1998. The share of new residential units that are affordable represent 10% of all new units dropping slightly from 11% in 2006.

Apartment rental rates rose 7% from 2006 to 2007—faster than the 5% recorded between 2005 and 2006. 2007 marked the second straight year of rising rental rates after several years of decline. Factors that could be continuing to drive the increase in average rents include the region’s high housing prices combined with the slowdown in home appreciation that may be deterring renters from pursuing homeownership, as well increases in job growth and a dwindling supply of apartments. Rents increased more than twice as fast as median household income—which grew 2% between 2005 and 2006.

Home affordability has continued to decline in Silicon Valley. In just four years, the percentage of potential first-time home buyers that can afford to purchase the median-priced home has dropped by half—from 44% in 2003 to 22% in 2007. Other California regions and the state as a whole have also experienced substantial drops in affordability. In fact, Los Angeles has become less affordable than Silicon Valley during this period.

The share of the total home price that is paid as the down-payment has been on the rise since the mid 1990s, and in 2007 jumped in Silicon Valley and dropped in the State as a whole. In 2007, the typical down-payment for a home purchase was 26% of total price, up 1.4% from 2006.

Residential foreclosure activity in Silicon Valley, measured by the annual percentage increase in the number of residential foreclosure sales, continued to climb. Over the 2006-2007 period, the rate of growth in foreclosures has skyrocketed—increasing 317% in California and 225% in Silicon Valley. The number of foreclosure sales has increased from 378 to 1,229 between 2006 and 2007. Foreclosures occur when homeowners cannot meet their mortgage payments. Thus, an increase in foreclosures is an indication of financial stress among households due to any variety of factors, including job loss, income decline, and adjustments of variable rate mortgages.

Rentals rates rose 7% from 2006 to 2007.
Home Affordability

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

Percentage of first-time homebuyers that can afford the median priced home in 2007:
- **22%** Silicon Valley
- **24%** California

Residential Foreclosure Activity

Annual Number of Foreclosure Sales

Number of Foreclosure Sales

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon Valley</td>
<td>378</td>
<td>1,229</td>
<td>+225%</td>
</tr>
<tr>
<td>California</td>
<td>12,699</td>
<td>52,916</td>
<td>+317%</td>
</tr>
</tbody>
</table>

Down Payment Share

Trends in Downpayment as Share of Total Price of Home

- **26%** – Silicon Valley
- **22%** – California

* Note: 2007 data is through November. Source: DataQuick Information Systems

Source: California Association of Realtors, Home Affordability Index; DataQuick Information Systems

* Estimate based on Quarters 1-3, 2007 Analysis: CEI
Commercial Space

Demand for commercial space continues as vacancy rates drop and rents rise.

Why Is This Important?

This indicator tracks the supply of commercial space, rates of commercial vacancy, and cost, which are leading indicators of regional economic activity. In addition to office space, commercial space includes R&D, industrial, and warehouse space. The change in the supply of commercial space shows the impact of absorption and new construction added. A negative change in the supply of commercial space shows a tightening in the commercial real estate market. 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?

Silicon Valley’s demand for commercial real estate market continues. The rate at which commercial space is being absorbed continues to outstrip new construction added for the third year in a row although slowing slightly. The overall annual rate of commercial vacancy declined for the fourth year in a row, but remains well above the very-low vacancy rate experienced during the economic peak in 2000. In 2007, vacancy rates varied across all types of commercial space—from R&D (11.5%) and office (8.3%) to industrial (4.4%) and warehouse (3.4%). In all cases, while vacancies rates have fallen in recent years, in 2007 the rate of decline slowed slightly.

Rental rates were up again in 2007—the first time commercial rents have increased two straight years in all categories—office, R&D, industrial, and warehouse sectors—in a decade. In fact, in 2007, office and R&D sectors experienced their biggest increase in average asking rent since 2000.
Change in Rental Rates
2006-2007
Office 14%
R&D 33%
Industrial 10%
Warehouse 18%

Environment
Land Use
Housing
Commercial Space

Special Analysis continued
Appendices
Acknowledgments
Civic Engagement

Silicon Valley voters exhibit increasing independence and the community continues to invest in its charities and foundations.

WHY IS THIS IMPORTANT?

An engaged citizenry shares in the responsibility to advance the common good, is committed to place and has a level of trust in community institutions. Voter participation is an indicator of civic engagement and reflects community members’ commitment to a democratic system, confidence in political institutions and optimism about the ability of individuals to affect public decision making. Civic institutions, such as the non-profit sector, are important threads in a community’s civic fabric. They provide a safety-net for the community and inspire a spirit of giving and volunteering to tackle complex challenges facing a region. Measuring their growth over time gives an indication of a community’s willingness to invest in its civic institutions.

HOW ARE WE DOING?

Especially since the downturn there has been strong growth in Silicon Valley’s nonprofit sector. Between 2000 and 2005, the number of public charities grew by 27% and the number of private foundations grew by 29%. The primary activities of the region’s nonprofits are most concentrated in the areas of human services and education. Since 2000, the strongest growth in the number of nonprofits has been in the arts which grew by 37% over the five years. With increases of 31% each, international and religious organizations followed in growth in total numbers.

The percentage of residents who vote has increased since the beginning of the decade when presidential election years (2000, 2004) and gubernatorial election years (2002, 2006) are compared. However, the biggest change in the past decade is how residents participate in the political process. More voters now vote absentee than go to the polls—increasing from 24% to 68% of voters in Silicon Valley between 1998 and 2007. Since 1999, the percentage of voters in Silicon Valley declaring a party affiliation has continuously dropped from 84% to 77%—and remains lower than the state average.

Voter Participation

Share of Eligible who Voted in General Elections

Santa Clara & San Mateo Counties and California

GOVERN

Analysis: CEI

Share of Eligible Who Voted

Share of Absentee Voters

Source: California Secretary of State, Elections Division

Growth in Nonprofits

2000-2005

<table>
<thead>
<tr>
<th></th>
<th>Silicon Valley</th>
<th>Rest of California</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Charities</td>
<td>+27%</td>
<td>+26%</td>
</tr>
<tr>
<td>Private Foundations</td>
<td>+29%</td>
<td>+41%</td>
</tr>
</tbody>
</table>

Source: National Center for Charitable Statistics, Core Trend File

Analysis: CEI

GOVERN
Voters in Silicon Valley declared party affiliation 6% less than voters in the rest of California.

Top Growth in Nonprofit Organizations 2000-2005

- Arts, Culture & Humanities: +37%
- International, Foreign Affairs: +31%
- Religion: +31%

Source: National Center for Charitable Statistics, Core Tread File
Analysis: CBI
City revenues increased in fiscal year 2004-05 mainly due to property and other taxes. In 2005 Silicon Valley residents accounted for 15% of State revenues from personal income tax up from 13% in the previous year.

**Why Is This Important?**

Governance is defined as the process of decision-making and the process by which decisions are implemented. The ability of local government to govern effectively is influenced by many factors, including the availability and management of resources. To maintain service levels and respond to a changing environment, local government revenue must be reliable. Local revenues are affected by economic fluctuations and by state takings of locally generated revenue.

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

**How Are We Doing?**

Silicon Valley city revenues increased in 2004-2005 for the first time since the 2000-2001 time period. City revenues rose 9% from $2.3 billion in 2003-2004 to $2.5 billion in 2004-2005. In particular, property tax revenue experienced a major increase (37%), while sales tax revenue dropped 22%. In fact, property tax revenues are at their highest share—and sales taxes are close to their lowest share—of total city revenues since 1990.

Despite an increase in property tax revenue, Silicon Valley cities still derive most of their revenue from the most volatile sources: sales tax, other taxes and other sources of revenue. Property tax grew from 16% to 20% of total city revenue while sales tax dropped from 18% to 13%. Revenue shares from “Other taxes” grew from 20% to 24%. “Other revenue” sources dropped slightly and include intergovernmental transfers, special benefit assessments, fees, as well as permits and investments.

By virtue of its economic strength and comparatively high income levels, Silicon Valley typically makes a large contribution to state revenues. Through personal income taxes, the region, with about 7% of California’s population, accounted for 14.7% of state revenues in 2005—up from 13.3% in 2004. Silicon Valley has been responsible for as much as one-quarter (24.1%) of state revenues at the peak of the economic boom in 2000.
City Revenue Trends

Growth in City Revenues since 1990

Silicon Valley

Source: California State Controller's Office
Analysis: CEI

Regional-State Interface

Silicon Valley's Contribution to California State Revenues
From Personal Income Tax

Source: California Franchise Tax Board, Economic and Statistical Research Bureau
Analysis: CEI
Replacement jobs: New opportunities

In addition to structural changes driving shifts in occupational demand, demographic and educational trends are leading toward a growing demand in a range of mid-wage occupations to fill positions being vacated by retirees. 2008 marks the first year in which baby boomers can retire and collect Social Security. The U.S. Department of Labor just projected that 25 million workers would retire in the next ten years and a larger number in the following decade. In California 3 million workers will retire by 2018, and the number of retirees in Silicon Valley will be close to 300,000.

Nationally there will be two job openings from replacements for every job opening created from growth. In these mid-wage foundation occupations the ratio is much higher as today’s workforce is relatively old. The latest California State projections show that for the San Francisco and San Jose metro areas, three job openings will come from replacements for every job opening created by growth and, again, the ratio is higher for mid-wage foundation occupations.

Some of these mid-wage job opportunities require a four-year college degree but many do not; however, most of these jobs do require additional training beyond high school--training that must come from community colleges, often in partnership with local companies or public agencies and from new training programs yet to be developed. These jobs provide opportunities for workers to improve their pay and career opportunities. And the Valley needs these workers; however, challenges exist not only in training students and existing workers for these jobs but in making potential trainees aware of these opportunities.

Replacement Jobs in the Public Sector

Although not clearly revealed in the occupational data, local governments and public services such as utilities and water and waste departments are expressing concern about filling the replacement needs in a wide range of technical fields and public administrative positions.

In 2001, roughly 45% of public employees were 45 years or older compared to 27% in the private sector.

The 2003 Volcker Commission described the civil service “retirement tsunami” in which 60% of the federal workforce is expected to retire by the end of the decade. Although directed at federal government, the reported personnel crisis is also descriptive of the recruitment crisis besetting local governments.

The communities of Silicon Valley are witnessing this trend as well. For example, one-third of City employees in San Jose will be eligible for retirement by the end of the decade, and the City of Palo Alto has reported that it stands to lose a wave of top managers retiring by summer of 2008. In San Mateo County, the average age of County employees is 44.7, and currently 18% of County workers are over the age of 50 and eligible for retirement.

Dr. Frank Benest, out-going City Manager of Palo Alto, has identified four causes for the dearth of personnel qualified to fill the ranks of the waves of exiting public administrators: lack of succession planning, anti-government bias, value trends, and less time for traditional on-the-job mentoring.

The inability to fill critical technical and administrative positions will impact the delivery of services in our communities. Addressing this quickly approaching crisis will necessitate discussions about technical training, public service recruitment and personnel development.
California State occupational projections indicate that the bulk of job openings in the coming decade will be mid-wage jobs. Figure 3 represents the difference between projections for new jobs and for net replacements between 2004 and 2014 for Santa Clara County. At all earnings levels, job openings due to net replacements outpace openings from new positions. At the mid-wage level, projected replacement job openings are double new jobs. Replacement jobs at the lower wage level are projected to be almost triple new job openings. The bulk of such jobs are critical place-based occupations. Many of these jobs at the mid-wage level do not require university degrees.

**Figure 3: Net Replacement Jobs Projections**

Santa Clara County* Job Opening Projections
New Jobs and Net Replacements**
2004-2014

<table>
<thead>
<tr>
<th>Wage Level</th>
<th>Total Job Openings</th>
<th>New Jobs</th>
<th>Net Replacements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Wage Level (&lt;$30,000)</td>
<td>10,295</td>
<td>2,635</td>
<td>7,660</td>
</tr>
<tr>
<td>Mid Wage Level ($30,000-$80,000)</td>
<td>4,286</td>
<td>8,088</td>
<td>2,762</td>
</tr>
<tr>
<td>High Wage Level (&gt; $80,000)</td>
<td>6,934</td>
<td>4,172</td>
<td>2,762</td>
</tr>
</tbody>
</table>

Analysis includes all patents with an inventor from Silicon Valley, regardless of sequence number of inventor

* Includes San Benito County

** Net Replacement openings are an estimate of the number of job openings expected because people have permanently left an occupation. It estimates the net movement of 1) experienced workers who have an occupation and start working in another occupation, stop working altogether, or leave the geographic area minus 2) experienced workers who move into such an opening. It does not represent the total number of jobs to be filled due to the need to replace workers.

Occupations reporting the greatest net growth in employment are not necessarily the same occupations with the greatest projected need for replacing retiring workers (Figure 4). Occupations with net growth as well as growing replacement openings include Electricians and Computer Support Specialists. Surprisingly, many occupations that are decreasing in total numbers (as seen in Figure 2) are occupations identified as projected job replacement needs. For instance, although there has been a net decrease in the number of Office Clerks in the region, it is projected that between 2004 and 2014, over 400 positions for Office Clerks will open on an annual basis in Santa Clara County.

**Figure 4: Mid-Wage Occupations in Top Demand for Replacement Jobs**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>2006 Median Wage ($2007)</th>
<th>Education &amp; Training Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Licensed Practical and Licensed Vocational Nurses</td>
<td>$54,291</td>
<td>Post-Secondary Vocational Education</td>
</tr>
<tr>
<td>Medical Assistants</td>
<td>$35,359</td>
<td>Moderate-Term On-the-Job Training</td>
</tr>
<tr>
<td>Dental Assistants</td>
<td>$30,117</td>
<td>Moderate-Term On-the-Job Training</td>
</tr>
<tr>
<td>INFORMATION TECHNOLOGY SUPPORT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Support Specialists</td>
<td>$61,358</td>
<td>Associate Degree</td>
</tr>
<tr>
<td>Computer, Automated Teller, &amp; Office Machine Repairers</td>
<td>$44,103</td>
<td>Post-Secondary Vocational Education</td>
</tr>
<tr>
<td>Semiconductor Processors</td>
<td>$42,512</td>
<td>Associate Degree</td>
</tr>
<tr>
<td>CONSTRUCTION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricians</td>
<td>$68,426</td>
<td>Long-Term On-the-Job Training</td>
</tr>
<tr>
<td>Plumbers, Pipefitters, and Steamfitters</td>
<td>$59,045</td>
<td>Long-Term On-the-Job Training</td>
</tr>
<tr>
<td>Drywall and Ceiling Tile Installers</td>
<td>$54,036</td>
<td>Moderate-Term On-the-Job Training</td>
</tr>
<tr>
<td>Construction Laborers</td>
<td>$34,659</td>
<td>Moderate-Term On-the-Job Training</td>
</tr>
</tbody>
</table>
Ladders of Opportunity: Moving into Mid-Wage Occupations

Opportunities for earnings mobility exist in an environment of structural, technological and demographic change. While increased job churn produces uncertainty, there is evidence that in some industries, job switches promote earnings growth\(^3\). Different occupations offer varying paths for mobility either through progressive training that can lead from one wage level to another or through switching from one industry to another. Shifts in occupational demand mean shifts in opportunity; however, gaining access to new opportunities typically is limited by real costs of time and money for training and by a lack of information about career paths and related training.

Mid-wage occupations can become mid-wage careers, as:

- **People with growing experience move up in the same occupation in the same industry.**
- **People move laterally to different industries that pay more for their skills, knowledge, and abilities.**
- **People move from one mid-wage occupation to another, as they complete additional education and training, or find alternatives that are a close match to the existing skills, knowledge, and abilities.**
- **People move up from lower-wage to mid-wage occupations with additional education, training, or experience.**

All these paths provide opportunity for upward mobility for residents of Silicon Valley. As occupations vary by levels and types of required training, the associated paths for earnings mobility also vary. The following section explores the training requirements and opportunities for movement up the earnings ladder.

Educational and training requirements of growing mid-wage occupations

For most mid-wage occupations, some additional preparation beyond high school is typically required. This could be college, or it could be specialized training. There are many opportunities in the top growing mid-wage occupations for people even without a four-year university degree. Figure 5 illustrates the educational distribution of people currently working in the detailed growing occupations. For example, fewer than 30% of people currently in the growing construction occupations have more than a high school diploma. Most growing occupations in health services are currently filled with people with some college and not necessarily a four-year degree. Occupations reflecting a wide distribution of educational attainment in Figure 5 such as Biological Technicians and Computer Support Specialists illustrate opportunities for earnings growth within the mid-wage level.

**Figure 5**

Educational Attainment by Mid-Wage Occupations

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Median Wage</th>
<th>Percent of Employees</th>
<th>Median Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dental Hygienists</td>
<td>$63,367</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>Medical &amp; clinical laboratory technicians</td>
<td>$48,753</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Licensed practical/vocational nurses</td>
<td>$56,968</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td>Biological technicians</td>
<td>$49,247</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Pharmacy technicians</td>
<td>$40,659</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Medical assistants</td>
<td>$36,529</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td><strong>IT Support</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer support specialists</td>
<td>$59,972</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td>Media and communication equipment workers</td>
<td>$41,891</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Computer automated teller &amp; office machine repairers</td>
<td>$44,928</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architectural and civil drafters</td>
<td>$53,377</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>Construction and building inspectors</td>
<td>$72,740</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Electricians</td>
<td>$69,107</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td>Plumbers, pipefitters, and steamfitters</td>
<td>$68,149</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Carpenters</td>
<td>$58,106</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Construction laborers</td>
<td>$39,920</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>Drywall &amp; ceiling tile installers</td>
<td>$54,361</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Roofers</td>
<td>$54,424</td>
<td>50%</td>
<td></td>
</tr>
</tbody>
</table>

The current educational attainment of people in growing mid-wage occupations shows that the majority of job holders have at least some college or postsecondary preparation. Although those with a high school diploma or less, do have opportunities to hold mid-wage jobs, the options are much more limited among growing mid-wage occupations.

People can move from lower-wage to mid-wage occupations as they advance their careers in the same industry. Health services is a good example. To move into a mid-level occupation typically requires an associates degree or postsecondary vocational award (e.g., a professional certificate)—anywhere from a few months to a couple of years of additional preparation. There is a large pool of people already working in lower-wage jobs in health services that could move up.

**English Skills**

In order to even reach the “ramp” that would lead to a bridge to a mid-wage job, critical skills such as basic English are in high demand among lower wage workers in the region. In addition to the costs of English as a Second Language (ESL) courses, the nature of low-wage work is that people typically have more than one job. This severely limits their ability to take part in formal classes such as at community colleges with semester formats and limited availability on weekends. To help mitigate these mismatches of supply and need, the local nonprofit Building Skills Partnership works with employers and unions to provide janitors in the region with ESL and basic computer literacy training at the worksite and during working hours in order to reach out to the most workers with the greatest needs.

People in mid-wage occupations can also change industries—as some industries are growing and pay more than others. Computer support specialists are a good example. People in this occupation can make very different wages if they work in business services ($31,892) or internet service providers and web search portals ($61,497). Even parts of the same industry, such as construction, can pay differential amounts. Drywall and ceiling tile installers, for example, in nonresidential building construction make much more ($60,075) than the same occupation in residential building construction ($45,957). Of course, in all these examples, while there are probably some skill differences that help explain varying wages, the skills differences are greater across occupations.

**What are possible career paths related to growing occupations?**

Each of the sectors of Health Services, IT Support Services, and Construction are characterized by strong growth in a variety of related mid-wage occupations in Silicon Valley. The discussion below begins with presenting some of these top growing mid-wage occupations and then exploring lower wage occupations that could have the potential for moving into these mid-wage occupations. Additionally, potential paths upward to high-wage occupations in growing demand are identified as well as potential lateral transitions for attaining higher earnings.
Opportunities in Health Services are expanding due in part to the growing needs of an aging population. The changing patterns in service delivery from hospital-based care to out-patient and home care create different occupational needs. Additionally, new technology creates demand for new specialized skills.

In Health Services, there is a natural progression from lower to mid-wage occupations and even higher. In the middle of Figure 6, are six of the top growing mid-wage occupations with varying levels of skill and earnings.

The box below (Figure 6) contains a number of lower wage occupations with significant employment shares that could provide a starting point for people to move into the growing mid-wage occupations above. From the mid-wage to the high-wage level, the paths for progression become more specialized and typically more costly in terms of time and fees.

Educational requirements for these growing mid-wage occupations in Health range from moderate on-the-job training to acquiring an Associate or Bachelor Degree. In addition to upgrading skills, earnings mobility can be achieved by transitioning from one industry to another. For example, in most Health fields, this can be achieved by working in a hospital. Biological Technicians can make wage gains by moving into R&D services.

Figure 6: Health Career Ladders

<table>
<thead>
<tr>
<th>High Wage Occupations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered Nurses</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Growing Mid Wage Occupations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Hygienists</td>
</tr>
<tr>
<td>Associate Degree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biological Technicians</th>
<th>Pharmacy Technicians</th>
<th>Medical Assistants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate Degree</td>
<td>Moderate-term on-the-job training</td>
<td>Moderate-term on-the-job training</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low Wage Occupations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Home Health Aides</td>
</tr>
<tr>
<td>• Personal and Home Care Aides</td>
</tr>
<tr>
<td>• Child Care Workers</td>
</tr>
<tr>
<td>• Pharmacy Aides</td>
</tr>
<tr>
<td>• Physical Therapist Aides’</td>
</tr>
<tr>
<td>• Hairdressers; Hairstylists &amp; Cosmetologists</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lateral Transitions for Mid-Wage Occupations by Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Assistants</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>Offices of Other Health Practitioners</td>
</tr>
<tr>
<td>$22,682</td>
</tr>
</tbody>
</table>
Technology pervades all aspects of economic activity today. The activities of placing an order at the coffee shop, paying a bill online, or accessing shared databases with coworkers on an internal network all require computer systems of varying scale that must be set up and maintained by skilled technicians.

Growing mid-wage occupations in Information Technology Support include a range of skill requirements and earnings levels. As in Health Services, meaningful career progression can be pursued within the mid-wage level (Figure 7).

Moving into these mid-wage occupations requires vocational training or an Associate or Bachelor Degree. Moving into high-wage occupations typically requires a four-year university degree.

There is considerable opportunity for earnings mobility in IT Support through industry switches. In some instances, such a move can mean a move into the high-wage category. Computer Support Specialists in Business Support Services can double their earnings of roughly $30,000 by moving into Internet Service Providers & Web Search Portals and quadruple their earnings by moving to Business Schools and Computer & Management Training.

Figure 7: Information Technology Support Career Ladders

<table>
<thead>
<tr>
<th>High Wage Occupations</th>
<th>Growing Mid Wage Occupations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Systems Analysts</td>
<td>Computer, Automated Teller &amp; Office Machine Repairers</td>
</tr>
<tr>
<td>Network Systems and Data Communications Analysts</td>
<td>Postschool Vocational Award</td>
</tr>
<tr>
<td>Computer and Information Systems Managers</td>
<td>Computer Support Specialists</td>
</tr>
<tr>
<td></td>
<td>Associate Degree</td>
</tr>
<tr>
<td></td>
<td>Media &amp; Communication Equipment Workers</td>
</tr>
<tr>
<td></td>
<td>Long Term On-The-Job Training</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low Wage Occupations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Tellers</td>
</tr>
<tr>
<td>• Data Entry Keyers</td>
</tr>
</tbody>
</table>

Lateral Transitions for Mid-Wage Occupations by Industry

<table>
<thead>
<tr>
<th>Computer Support Specialists</th>
<th>Computer, Automated Teller &amp; Office Machine Repairers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Support Services</td>
<td>Internet Service Providers &amp; Web Search Portals</td>
</tr>
<tr>
<td>Business Schools and Computer &amp; Management Training</td>
<td>Business Schools and Computer &amp; Management Training</td>
</tr>
<tr>
<td>Electronic &amp; Precision Equipment Repair &amp; Maintenance</td>
<td>Electronic &amp; Precision Equipment Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Computer &amp; Peripheral Equipment Manufacturing</td>
<td>Computer &amp; Peripheral Equipment Manufacturing</td>
</tr>
</tbody>
</table>

| $31,892 | $61,497 | $119,767 | $39,367 | $57,216 |
Although new residential construction is currently in decline other construction activities continue. California’s recently passed infrastructure bonds will create new demand for skilled workers in building bridges and roads. In addition, commercial construction continues in the region, and new interest in green building is spurring the development of market niches in environmentally sound construction for remodeling and new building.

Many of the top growing mid-wage occupations in the Valley are in the Construction Industry. These include a wide range of earnings and skills levels (Figure 8). The Construction industry offers the textbook example for accessible and viable career ladders. Movement up from lower to mid-wage occupations is primarily through on-the-job training, and extensive opportunity for earnings mobility exists within the middle wage range. First-Line Supervisors offers an example of how relevant work experience can lead to the high-wage category. Additionally, unlike most career ladders, many years of experience can lead to business ownership as an independent building contractor.

There is also opportunity for Construction workers to improve their earnings by taking their skills to a different building sector. For example, Plumbers and Electricians improve earnings similarly by moving from Residential Construction to Building Equipment Contractors. Drywall Installers can increase earnings by 30% by moving from residential to nonresidential construction. Construction Laborers generally enjoy higher earnings in Highway, Street and Bridge Construction, and Inspectors can earn in the high-wage range working in local government.

Figure 8: Construction Career Ladders

![Construction Career Ladders](image-url)
Training Opportunities in the Region

Silicon Valley is well-positioned to be a driver of new occupational demand through both the generation and the early adoption of new technology. New occupational opportunity is emerging from technological advances and new market demand for products and services. For example, the complexities of new technology in the areas of medical technology require the specialized expertise of multiple individuals for conducting tests, process monitoring, and interpreting results. Further, as waves of workers reach retirement, demand is quickly growing in more traditional technical fields. Faced with the dual challenges of dropping high school graduation rates and rising college tuition costs, can our region meet the growing demands for occupational training?

Looking at allied health fields as an example, during the 2006-2007 academic year, 1,433 students were enrolled in Silicon Valley community colleges in the programs of Nursing, Medical Lab Technician, Radiology Technology, Respiratory Therapy, Pharmacology, and Biotechnology. (See Appendix for programs by college). Only in Medical Lab Technician and Biotechnology programs are there as many students enrolled as applied for the programs. In other critical training programs, the number of applicants far exceeds the number of seats available. For all nurse training (licensed vocational and associate programs), there were seven applicants for every single enrolled student. The ratios of five applicants for every seat in Radiology and four applicants for every seat in Respiratory Therapy suggest that considerable more demand for training exists than the region’s colleges are able to provide.

In addition to course availability, the acquisition of new skills requires time and money. Typically these allied health programs take two years to complete and cost a total of $2,400 to $4,400.

Figure 9

Workforce Training in Health Care Occupations

Number and Ratio of Applicants to Openings
Silicon Valley Colleges 2006-2007

Nursing  Medical Lab Technician  Radiology Technology  Respiratory Therapy  Pharmacology  Biotechnology

Applicants  Openings  Ratio

Source: Silicon Valley Community Colleges Analysis CBI

*Nationally college tuition has risen faster than inflation for the last 26 years (Kim, et al. 2007, 21)*
Preparing People for Opportunity in Turbulent Times

The pace of change is fast. Firms and people need the flexibility and support to quickly adapt to the new speed of changing market forces. Intrinsic to these new market forces are uncertainty and risk, job volatility, and demand for new skills.

When social cohesion crumbles, there are real ramifications in an innovation economy. Chairman of the Federal Reserve, Ben Bernanke, explains that while the ability of our labor and capital markets to accommodate and adapt to economic change has made possible our strong productivity growth, these dynamics have also produced painful results for people whose skills become obsolete in the process (2007). Further, he cautions: “If we did not place some limits on the downside risks to individuals affected by economic change, the public at large might become less willing to accept the dynamism that is so essential to economic progress” (2007). In addition, Martin Wolf, Economist at the Financial Times argues, rising inequality causes declining equality of opportunity, and “it also makes losing a job costlier, more objectionable and so more resisted” (2007).

Joint Venture’s “Next Silicon Valley” report describes trust as core to an innovation economy in which entrepreneurs, investors, and researchers collaborate in a highly competitive environment. “Trust has become important because it fosters the cooperation and risk sharing that promotes innovation and flexible responses to change” (Joint Venture, 2001, 30). Silicon Valley will be a resilient region when the region can support its people, companies, and communities as they mutually adapt to increased economic volatility (Joint Venture, 2001).

“Unless social innovation accompanies technology innovation, the relentless flow of new innovations can have real and growing downsides — downsides that threaten the special habitat that births them.” (Joint Venture, 2001).

What kinds of social innovation will be required to prepare people for opportunity in turbulent times?

• If risk and uncertainty are sources of economic progress and social distress, how can Silicon Valley be as innovative in reconciling these realities as it has been in creating new technologies and business models?
• If there are growing mid-wage occupations, how can Silicon Valley systematically prepare people for these opportunities?
• If there are growing shortages of mid-wage workers, how can the region improve its high school graduation rates and participation in post-high school education and training?
• If worker displacement continues, how can the resulting real personal and social costs be mitigated while connecting people to opportunities in other parts of the economy?
• If Silicon Valley continues to innovate in a growing global marketplace, how can the region ensure that its own people participate in the resulting economic opportunities that are created?
Front Page Statistics

**Area**

**Population**
Data for the Silicon Valley population come from the E-1 City/County Population Estimates with Annual Percent Change report by the California Department of Finance and are for Silicon Valley cities. Population estimates are for 2007.

**Jobs**
Jobs data for the front page statistic is based on Quarter 2 2007 employment estimates. 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. Data for Quarter 2 2007 are preliminary-revised. Data is for Santa Clara and San Mateo Counties, Scotts Valley, Fremont, Newark, and Union City.

**Average Wage**
Figures were derived from the EDD Joint Venture: Silicon Valley Network data set and are reported for Fiscal Year 2007 (Q1 & Q4 2006, Q3 & Q2 2007). Wages were adjusted for inflation and are reported in 2007 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 2007 are preliminary-revised. Data is for Santa Clara and San Mateo Counties, Scotts Valley, Fremont, Newark, and Union City. Appendix B provides NACS-based definitions for each of Silicon Valley's industry clusters.

**Educational Attainment, Age, Ethnic Composition**
Data for educational attainment, age, ethnicity/ance, and income statistics are for Santa Clara and San Mateo Counties and are derived from the United States Census Bureau, 2006 American Community Survey.

**Foreign Born**
Data for foreign born come from the United States Census Bureau, 2006 American Community Survey and are for Santa Clara and San Mateo Counties. The category of foreign-born includes foreign-born residents, naturalized citizens, and citizens born abroad to American parent(s).

**Foreign Immigration and Domestic Migration**
Data come from the E-6 County Population Estimates and Components of Change by County — July 1, 2000–2007 report by the California Department of Finance and are for Santa Clara and San Mateo Counties. Estimates are for 2007 and are provisional.

### People

**Population Change & Net Migration Flows**
Statistics are from the E-6 County Population Estimates and Components of Change by County — July 1, 2000–2007 report by the California Department of Finance and are for Santa Clara and San Mateo Counties. Estimates for 2007 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.

**Population shares that speak language other than English at home**
Data are from the United States Census Bureau, 2002 and 2006 American Community Survey. The data are for Santa Clara and San Mateo counties.

**Educational Attainment**
Data for educational attainment are for Santa Clara and San Mateo Counties and are derived from the United States Census Bureau, 2006 American Community Survey.

**Science and Engineering Degrees Conferred**
Data are from the National Center for Education Statistics. Regional data includes the following post-secondary institutions: Menlo College, Cogswell Polytechnical College, University of California at Berkeley, Davis, San Francisco, and Santa Cruz; Stanford University; San Francisco State University; Santa Clara University; San Jose State University; and University of San Francisco. 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 citizenship and level of degree (bachelors, masters or doctorate). U.S. totals came from the National Science Board Science and Engineering Indicators 2006.

### Economy

**Innovation**

**Value Added**
Value added per employee is calculated as regional gross domestic product (GDP) divided by total employment. GDP estimates the market value of all final goods and services. GDP and employment data are from Moody's Economy.com. Silicon Valley data is for Santa Clara and San Mateo Counties.

**Patents**
Patent data is provided by the U.S. Patent and Trademark Office and consists of utility patents granted by inventor. Population figures are from Economy.com. 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.

**Silicon Valley Firms with Affiliates Abroad**
Information on foreign firms located in Silicon Valley came from Unleashed Business Publications. Employment numbers for these firms were provided by Leaders Info Services. Data are based on Joint Venture's ZIP code-defined region of Silicon Valley.

**Venture Capital**
Data are provided by ProVentures.co and are for Silicon Valley. The data are based on Joint Venture's ZIP code-defined region of Silicon Valley.

**CleanTech Venture Capital**
Data provided by CleanTechnica, Inc. Data are based on Joint Venture's ZIP code-defined region of Silicon Valley.

**Broadband Adoption in California**
Reported broadband adoption rates for California and regions in the state come from "Broadband for All Gaps in California’s Broadband Adoption and Availability" by Jed Kolko (California Economic Policy Report, Public Policy Institute of California, 2007) and based on data from Fierce Research. San Francisco Bay Area includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Sonoma, and Solano Counties. Broadband is defined as download speeds equal to or faster than 220 kbit/s.

**Global Broadband Subscribers**
Data are from the Organisation for Economic Co-operation and Development, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals. April 2007. Broadband is defined as download speeds equal to or faster than 256 kbit/s.
Employment

Jobs

Si\(\text{c}on\) Valley employment are provided by the California Employment Development Department and are from Joint Ventures: Silicon Valley Network's unique data set. The data set, covering 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 include 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. Data for Quarter 2 2007 are preliminary-revised. Data is for Santa Clara and San Mateo Counties, Scotts Valley, Fremont, Newark, and Union City.

Employment by Cluster and Industry

Figures were derived from the EIO Joint Ventures: Silicon Valley network data set and are based on the North American Industry Classification System (NAICS)). Data are for Quarter 4 2006 are preliminary-revised. Data is for Santa Clara and San Mateo Counties, Scotts Valley, Fremont, Newark, and Union City. Appendix B provides NAICS-based definitions for each Silicon Valley's industry clusters.

Green Establishments and Employment

Using a set of companies identified as having primary activities that fall roughly within the definition of cleantech used by the Cleantech Group™, LLC described above, establishment and job growth since 1990 were tracked using the National Establishments Time-Series database based on Dun & Bradstreet establishment data. This sample offers a conservative estimate and is by no means a comprehensive accounting of the industry in California Silicon Valley data is for San Mateo and Santa Clara Counties.

Workforce and Unemployment

Labor force and unemployment data are for the month of September and are civilian employment figures from the Labor Market Information Division of the California Employment Development Department. Civilian employment counts the number of working people by where they live. This includes business owners, the self-employed, unpaid family workers, private household workers, and wage and salary workers. A person with more than one job is only counted once. Unemployment measures the share of residents in the workforce actively looking for work. County labor force data are not adjusted for seasonality. Employment data are for Santa Clara and San Mateo Counties. 2007 data are preliminary estimates.

Income

Real per capita income

Total personal income and population data are from Econocom. Income values are inflation-adjusted and reported in 2007 dollars, using the CPI for the U.S. City Average from the Bureau of Labor Statistics. Silicon Valley data includes Santa Clara and San Mateo Counties.

Distribution of Income and Median Household Income

Data for Income Distribution and for Median Household Income are from the American Community Survey from the U.S. Census Bureau. Silicon Valley data includes Santa Clara and San Mateo Counties.

Relative Cost of Living

The regional cost of living index was provided by Econocom. San Francisco data is based on the San Francisco-San Mateo-Redwood City Metropolitan Division. San Jose data is based on San Jose-Santa Clara-Sunnyvale Metropolitan Statistical Area.

Society

High School Graduation Rate

Data for the most current year are preliminary and are provided by the individual school districts in Santa Clara County, Calfornia, Fremont, New Haven, Newark, Sequoia, and Scotts Valley via their CJSI reporting. CJSI is a program that was created to fulfill California's requirement per the Federal legislation No Child Left Behind Act of 2001 (NCLB), to implement a statewide accountability program that measures the progress of its students and schools over time through the collection and analysis of disaggregated data. In response, California Department of Education (CDE) and school districts have developed a school accountability system established 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;
  - 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.

Historical data are final and are from the California Department of Education. The methodology used calculates 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.

Dropout rates

Data for the most current year are preliminary and are provided by the individual school districts in Santa Clara County, Calfornia, Fremont, New Haven, Newark, Sequoia, and Scotts Valley via their CJSI reporting. CJSI is a program that was created to fulfill California's requirement per the Federal legislation No Child Left Behind Act of 2001 (NCLB), to implement a statewide accountability program that measures the progress of its students and schools over time through the collection and analysis of disaggregated data. In response, 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;
- 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.

Historical data are final and are from the California Department of Education. The methodology used a 4-year derived dropout rate that is an estimate of the percent of students who would drop out in a four year period based on data collected for a single year. Beginning in 2002-03, the California Department of Education adopted the National Center for Educational Statistics (NCES) Dropout definition following the new guidelines, the California Department of Education now defines a dropout as a person who:

1) Was enrolled in grades 7, 8, 9, 10, 11 or 12 at some time during the previous school year AND left school prior to completing the school year AND has not returned to school as of Information Day.
2) Did not begin attending the next grade (7, 8, 9, 10, 11 or 12) in the school to which they were assigned or in which they had previously attended on or before Information Day.

Kindergarten Readiness & Childcare Arrangements

Applied Survey Research conducted kindergarten readiness studies for San Mateo and Santa Clara Counties. The studies were conducted for the Santa Clara County Partnership for School Readiness, Peninsula Partnerships for Children, Youth and Families, and United Way of Silicon Valley. Readiness scores are based on a representative sample of kindergarten children from San Mateo and Santa Clara counties. San Mateo County scores are based on 527 students in 2001, 545 students in 2002, 486 students in 2003, and 632 students in 2005 (weighted N). Santa Clara County scores are based on 699 students in 2004 and 769 students in 2005 (weighted N), and 714 students in 2006 (weighted N). Averages adhere to 1 to 4 scale, where 1 is equivalent to Not Yet, 2 is equivalent to Beginning, 3 is equivalent to In Progress, and 4 is equivalent to Proficient.

Teachers and parents of kindergarten children reported on the types of child care arrangements children experienced the year prior to entering kindergarten. Percentages are based on the weighted sample size of 1174-1149 for Santa Clara and San Mateo counties. Percentages sum to more than 100% because children were cared for in more than one setting. 2006 percentages are based on 602-615 people who completed a Parent Information Form. The star flags a significant increase in preschool attendance according to a chi-square test, \( p \leq 0.05 \). In 2004, only preschool experience data were gathered.

Teacher expectation data is based on the level of proficiency teachers think children must have to successfully transition into kindergarten and uses the same proficiency scale used to evaluate children’s proficiency levels. In 2004, teacher expectations data was based on 32 teachers in 2004, 35 teachers in 2005, and 38 teachers in 2006. While child data are representative of each county, teacher-level data are not.

Third Grade Reading

Data are from the California Department of Education, CAT/6 Research Files for San Mateo and Santa Clara Counties. In 2003, the California Achievement Test CAT/6 replaced the Stanford Achievement Test, third edition (SAT/9), as the national norm-referenced test for California public schools. CAT/6 is a norm-referenced test; student’s scores are compared to national norms and do not reflect absolute achievement. This indicator tracks grade reading scores on the California Achievement Test, sixth edition (CAT/6), which measures performance relative to a national distribution.

Arts & Culture

The analysis of the region’s arts nonprofits is based on the Core files from the National Center for Charitable Statistics (NCCS) at the Urban Institute. The NCCS produces the databases based on IRS tax return data for public charities, private foundations, and non-501(c)(3) organizations filing IRS Forms 990. Data are based on Joint Venture’s ZIP-code-defined region of Silicon Valley.
Child Immunizations

Health Insurance Coverage and Source
All data on insurance coverage are drawn from the California Health Interview Survey carried out by the UCLA Center for Health Policy Research. For health insurance coverage, the indicator measures the share of people who answered “yes” when asked by the interviewer whether or not they are covered by health insurance. Data are for Santa Clara and San Mateo Counties. The indicator gives no indication of the quality or comprehensiveness of insurance coverage.

Dental Insurance Coverage
Data on dental insurance coverage are from the 2005 California Health Interview Survey-UCLA Center for Health Policy Research. The indicator measures the share of people who answered “yes,” when asked by the interviewer whether or not they are covered by dental insurance. Data are for Santa Clara and San Mateo Counties. The indicator gives no indication of the quality or comprehensiveness of insurance coverage.

Asthma
Data on asthma instances are drawn from the California Health Interview Survey-UCLA Center for Health Policy Research. Data are for Santa Clara and San Mateo Counties.

Obesity
Data on adult and adolescent obesity are based on results from the California Health Information Survey-UCLA Center for Health Policy Research. For adults, “Overweight or Obese” include the respondents who have a Body Mass Index (BMI) of 25 or greater for adolescents, “Overweight or Obese” includes the respondents who have a BMI in the highest 95 percentile with respect to their age and gender. Data are for Santa Clara and San Mateo Counties.

Share of Youth in Health Fitness Zone
The indicator is the share of students who met the criterion-referenced standard for the body composition component of the California Fitness Test. Data are for Santa Clara and San Mateo Counties. The Physical Fitness Test is administered in grades five, seven and nine in California public schools by the California Department of Education. The test used for physical fitness testing is the FITNESSGRAM®, designated for this purpose by the State Board of Education.

Child Abuse
Child maltreatment data are from the California Children’s Services Archive, CWS/CMIS, 2006 Quarter 4 Extract. Data are downloaded from the Center for Social Services Research at the University of California at Berkeley. Population data comes from the California Department of Finance. Data are for Santa Clara and San Mateo Counties.

Adult & Juvenile Violent Offenses/Drug & Alcohol Rehabilitation Services
Crime data are from the FBI Uniform Crime Reports, as reported by the California Department of Justice in their annual “Criminal Justice Profiles.” Felony offenses include violent, property and drug offenses. Drug rehabilitation data include the number of clients utilizing residential and outpatient drug and alcohol rehabilitation services provided by Santa Clara and San Mateo Counties. Data are an unduplicated count of residents served.

Place

Environment

Protected Open Space
Data are from GreenInfo Network’s Bay Area Protected Lands Database, and are for Santa Clara and San Mateo Counties, Fremont, Newark, and Union City. Santa Cruz county data was excluded because of data inconsistency. Data include lands owned by public agencies and non-profit organizations that are protected primarily for open space uses and that are accessible to the general public without any special permission. Previously parks less than 10 acres were excluded from the database, but in the 2006 update, there was no acreage cut-off. The database was updated in 2007, slight discrepancies in the data come from areas of SF Watershed lands were corrected to not include areas where 280 passed through. Corrections were also made to Don Edwards Wildlife Area.

Although the data depicts a 0.7% drop in protected open space from 2006-2007, overall acreage has increased in the past year. There are some major acquisitions from previous years that were not incorporated into GreenInfo Network’s database until this year, including nearly 6,000 acres in Don Edwards National Wildlife Refuge. Some have been acquired this year and are adding to the overall protected acreage including Mindego Hill in San Mateo which is ~1,000 acres. Tyler Ranch in the East Bay which is ~1,400 acres and Roche Ranch in Sonoma County. 1,600 acres. GreenInfo Network is scheduled to have a new release in early 2008.

Water Consumption
Data for the indicator were provided by the Bay Area Water Supply and Conservation Agency (BAWSCA). Data is compiled annually among BAWSCA agencies to update key information and assist in projecting suburban demand and population. Gross per capita consumption includes residential, non-residential, recycled and unaccounted for water use among the Santa Clara and San Mateo County BAWSCA agencies.

Electricity Consumption
Electricity consumption data provided by the California Energy Commission, Silicon Valley is defined by Santa Clara and San Mateo Counties.

Renewable Energy
The number and size (watts) of rebates granted for the installation of renewable energy systems was provided by the California Energy Commission, California Department of Energy, Silicon Valley is defined by Santa Clara County, plus adjacent parts of San Mateo, Alameda, and Santa Cruz Counties.

Vehicle Miles of Travel & Gas Prices
Vehicle Miles of Travel estimates are from the Caltrans 2006 “California Motor Vehicle Stock, Travel, and Fuel Forecast” and include state highway systems and other roads. Gas prices come from the Weekly Retail Gasoline and Diesel Prices (Cents per Gallon, including Taxes) dataset by the U.S. Department of Energy, Energy Information Administration. Gas prices are California All Grades All Formulations Retail Gasoline Prices (including taxes) and have been adjusted into 2007 dollars using the U.S. city average Consumer Price Index (CPI) of all urban consumers published by the Bureau of Labor Statistics.

Rides Per Capita & Change in Revenue Hours
Data are the sum of annual ridership on the light rail and bus systems in Santa Clara and San Mateo counties and riders on Caltrain. Data are provided by Sam Trans Valley Transportation Authority, Altamont Commuter Express and Caltrain. Revenue hours are the amount of time that a bus or train is in service. The sum of revenue hours across the region aggregates data provided by Sam Trans Valley Transportation Authority, Altamont Commuter Express and Caltrain. Monthly estimates were made for July through December 2007 using a rolling average of the past three years from the January-June share of ridership and revenue hours.

Means of Commute
Data on the means of commute to work are from the United States Census Bureau, 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 mean of transportation each day were asked to report the one used for the longest distance during the work trip. The category “Car, truck, or van” includes workers using a car (including company cars but excluding taxis), a truck of one-ton capacity or less, or a van. The category “Public transportation” includes workers who used a bus or trolley bus, streetcar or trolley car, subway or elevated, railroad, or ferryboat, even if each mode is not shown separately in the tabulation. The category “Other means” includes workers who used a mode of travel that is not identified separately within the data distribution.

Alternative Fuel Vehicles
Statistics are from the California Energy Commission (CEC), compiled using vehicle registration data from the California Department of Motor Vehicles. Alternative fuel vehicles include all hybrids and electric vehicles as well as vehicles using any type of alcohol-based (ethanol, methanol, flex fuel), or gaseous fuels (natural gas, propane, other gaseous). Diesel engine vehicles are not included in the analysis, because there is no differentiation given between vehicles running on carbon and those running on biological diesel fuels. Silicon Valley data includes Santa Clara and San Mateo Counties.

Vehicles Registered by Fuel Efficiency
Data are from the California Air Resources Board, Silicon Valley is defined as Santa Clara and San Mateo Counties.

Fuel Consumption

Air Quality
Ozone data come from the California Air Resources Board 2007 Air Quality Data D1/D2 Data is for Santa Clara and San Mateo Counties and measures the number of days exceeding the State 8-hour Ozone Standard.
Land Use

Land Use Density
JointVenture Silicon Valley Network conducted a land-use survey of all cities within Silicon Valley. Collaborative Economics completed survey compilation and analysis. Participating cities include Atherton, Belmont, Cupertino, Foster City, Fremont, Gilroy, Hollister, Los Altos Hills, Los Gatos, Monte Sereno, Morgan Hill, Mountain View, Newark, Palo Alto, Redwood City, San Carlos, San Jose, San Mateo, Santa Clara, Saratoga, Sunnyvale, and Union City. Santa Clara and San Mateo Counties are also included. Most recent data are for fiscal year 2007 (July 1-June 07). 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 and Development Near Transit
Data are from JointVenture Silicon Valley Network Survey of Cities. The number of new housing units and the square feet of commercial development within one-quarter mile of transit are reported directly for each of the cities and counties participating in the survey. Places within one-quarter mile of transit are considered “walkable” (i.e. within a 5- to 10-minute walk for the average person).

Building Affordable Housing
Data are from JointVenture Silicon Valley Network. Survey Cities. Affordable units are those that are affordable for a four-person family earning up to 80% of the median income for a county. Counties 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 jurisdictions.

Housing

Rental Affordability
Data on average rental rates are from ReaFacts survey of all apartment complexes in Santa Clara and San Mateo Counties of 40 or more units. Rates are the prices charged to new residents when apartments turn over and have been adjusted into 2007 dollars using the U.S. city average Consumer Price Index (CPI) of all urban consumers, published by the Bureau of Labor Statistics.

Home Affordability
Data are from the California Association of REALTORS® (CAR) Housing Affordability Index. CAR stopped producing the Housing Affordability Index for all home buyers since the end of 2005 and now produces a Housing Affordability Index for first-time buyers that has been updated historically to 2003. 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, the national average effective mortgage interest rate as reported by the Federal Housing Finance Board, and the median household income as reported by Claritas/MPDC Quarterly Sales Volume for Existing Single Family Detached Home Sales data were provided by DataQuick Information Systems.

Residential Foreclosure Activity
Silicon Valley foreclosure data is for all home types and comes from DataQuick Information Systems. Data are based on JointVenture’s ZIP code-defined region of Silicon Valley.

Down-payment as Share of Total Price of Home
Median home prices and average down-payment shares are from DataQuick Information Systems. Data are based on JointVenture’s ZIP code-defined region of Silicon Valley.

Commercial Space
Data are from Callers International and cover Santa Clara County. 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 sum of the direct vacant and sublease vacant space by the building base. The vacancy rate does not include occupied space 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 have been adjusted into 2007 dollars using the annual average Consumer Price Index (CPI) of all urban consumers in the San Francisco–Oakland–San Jose region, published by the Bureau of Labor Statistics.

Governance

Voter Participation & Party Affiliation
Data are from the California Secretary of State, Elections and Voter Information Division and the California State Archives Division. The eligible population is determined by the Secretary of State using Census population data provided by the California Department of Finance. Data are for Santa Clara and San Mateo Counties.

Nonprofit sector and fields of charitable giving
The analysis of the region’s nonprofit organizations is based on the Core Files from the National Center for Charitable Statistics (NCCS) at the Urban Institute. The NCCS produces the database based on IRS tax return data for public charities, private foundations, and non-501(c)(3) organizations filing IRS Forms 990. Data are based on JointVenture’s ZIP code-defined region of Silicon Valley.

City Revenue
Data for city revenue are from the State of California Cities Annual Report. Data include all cities and towns and dependent special districts and do not include redevelopment agencies and independent special districts. Data include all revenue sources to cities except for utility-based services (which are self-supporting from fees and the sales of bonds), voter-approved indebtedness property tax and sales of bonds and notes. The “other taxes” and “other revenue” include revenue sources such as transportation taxes, transient lodgings taxes, business license fees, other non-property taxes and intergovernmental transfers. Data are for Silicon Valley cities.

Regional - State interface: Silicon Valley’s contribution to CA State revenues
Data come from the Table B.C. “Personal Income Tax-Adjusted Gross Income by County,” provided by the California Franchise Tax Board. Economic and Statistical Research Bureau. Statistics were adjusted for inflation and are reported in 2007 dollars using the U.S. city average Consumer Price Index (CPI) of all urban consumers, published by the Bureau of Labor Statistics.

Special Analysis

Community College Training Programs
Data on the number of applicants and enrollment were collected for the following health care related programs: nursing, radiology technology, pharmacology, medical lab technician, and respiratory therapy. Data were provided by ten community colleges in the Silicon Valley region: Cabrillo College, Canada College, Chabot College, De Anza College, Evergreen College, Foothill College, Mission College, Ohlone College, College of San Mateo and Skyline College.

Occupational Distribution by Low, Mid, and High Income Levels
Growing and Declining Mid-Wage Occupations
Career Ladders
Employment and wage data are from the Occupational Employment Statistics, provided by the California Employment Development Department. Labor Market Information Division. The 2006 survey reference date is May 2006 for employment and the first quarter of 2007 for wage data. The 2002 survey reference date is November 2002 for employment and the fourth quarter of 2003 for wage data. Silicon Valley includes data for Santa Clara County and San Mateo County which were combined before applying suppression. Wage Distribution is based on inflation-adjusted 50th percentile annual earnings and are reported in 2007 dollars using the U.S. city average Consumer Price Index (CPI) of all urban consumers, published by the Bureau of Labor Statistics.

The Growing and Declining Mid-Wage Occupations chart includes a selection of the highest absolute growing and declining mid-wage occupations in the Construction, Health, and Information Technology Support Services sectors. Mid-wage occupations are defined by jobs with inflation adjusted median income levels between $30,000 and $80,000.

Mid-wage occupations included in career ladders are examples of top growing mid-wage occupations. A selection of related lower occupations that could have potential for moving into these mid-wage occupations were then selected. Additionally potential paths upward to high-wage occupations in growing demand are identified as well as potential lateral transitions for attaining higher earnings. Most common education/training levels are from the Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections.

Replacement Jobs
Replacement jobs projections are from the Occupational Employment Statistics, provided by the California Employment Development Department. Labor Market Information Division. Data is for Santa Clara and San Benito Counties. Wage Distribution based on inflation-adjusted 50th percentile hourly earnings from the first quarter of 2006 and are reported in 2007 dollars using the U.S. city average Consumer Price Index (CPI) of all urban consumers, published by the Bureau of Labor Statistics. Wage data do not include self-employed or unpaid family workers. Net Replacements openings are an estimate of the number of job openings expected because people have permanently left an occupation. It estimates the net movement of 1) experienced workers who leave an occupation and start working in another occupation, stop working altogether or leave the geographic area minus 2) experienced workers who move into such an opening. It does not represent the total number of jobs to be filled due to the need to replace workers.

Educational Attainment
### Workforce Training Programs at Community Colleges in Silicon Valley

<table>
<thead>
<tr>
<th>Community College</th>
<th>Nursing</th>
<th>Medical Lab Technician</th>
<th>Respiratory Therapy</th>
<th>Pharmacology</th>
<th>Radiology Technology</th>
<th>Biotechnology</th>
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<tr>
<td>Cabrillo College</td>
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<td>Contra Costa College</td>
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<td>West Valley College</td>
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### Definitions

#### Industry Clusters

<table>
<thead>
<tr>
<th>Computer and Communications Hardware Manufacturing</th>
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<tbody>
<tr>
<td>3341 11 Electronic Computer Manufacturing</td>
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<td>3341 12 Computer Storage &amp; Device Manufacturing</td>
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<td>3341 13 Computer Terminal Manufacturing</td>
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<td>3341 19 Other Computer Peripheral Equipment</td>
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<tr>
<td>3342 10 Telephone Apparatus Manufacturing</td>
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<tr>
<td>3342 20 Radio and TV Broadcasting &amp; Wireless Eq.</td>
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<td>3342 90 Other Communications Equipment Manufacturing</td>
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<tr>
<td>3345 11 Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System, and Instrument Manufacturing</td>
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<tr>
<td>3346 13 Magnetic and Optical Recording Media Manufacturing</td>
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<tr>
<th>Semiconductor and Semiconductor Equipment Manufacturing</th>
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<tbody>
<tr>
<td>3332 95 Semiconductor Machinery Manufacturing</td>
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<tr>
<td>3333 14 Optical Instruments and Lens Manufacturing</td>
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<tr>
<td>3341 13 Semiconductor and Related Device Manufacturing</td>
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<tr>
<td>3345 13 Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables</td>
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<tr>
<td>3345 15 Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals</td>
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<tr>
<td>3345 19 Other Measuring and Controlling Device Manufacturing</td>
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<tr>
<th>Electronic Component Manufacturing</th>
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<td>3344 11 Electronic Tube Manufacturing</td>
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<td>3344 12 Bare Printed Circuit Board Manufacturing</td>
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<td>3344 15 Electronic Resistor Manufacturing</td>
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<td>3344 16 Electronic Coax Transformer and Other Inductor Manufacturing</td>
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<td>3344 17 Electronic Connector Manufacturing</td>
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<td>3344 18 Printed Assembly (Electronic Assembly)</td>
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<td>3344 19 Other Electronic Component Manufacturing</td>
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<tr>
<td>3359 Other Electrical Equipment and Component Manufacturing</td>
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<tr>
<th>Software</th>
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<tr>
<td>3346 11 Software Reproducing</td>
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<tr>
<td>511 20 Software Publishers</td>
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<tr>
<td>518 Internet Service Providers, Websearch Portals and Data Processing Services</td>
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<tr>
<td>541 51 Custom Computer Programming Services</td>
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<tr>
<td>541 52 Computer Systems Design Services</td>
</tr>
<tr>
<td>541 53 Other Computer-Related Services</td>
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</tbody>
</table>

### Biomedical

| 3254 11 Medical and Botanical Manufacturing          |
| 3254 12 Pharmaceutical Preparation Manufacturing    |
| 3254 13 In-Vitro Diagnostic Substance Manufacturing  |
| 3254 14 Biological Product (except Diagnostic)     |
| 3254 15 Biological and Biotechnology Manufactur.    |
| 3254 16 Analytical Laboratory Instrument Manufacturing |
| 3254 17 Irradiation Apparatus Manufacturing         |
| 3254 18 Laboratory Apparatus and Furniture Manufacturing |
| 3254 19 Surgical and Medical Instrument Manufacturing |
| 3254 20 Surgical and Supplies Manufacturing         |
| 3254 14 Dental and Supplies Manufacturing           |
| 541 70 Research and Development in the Physical Engineering and Life Sciences (50%) |
| 621 5 Medical and Diagnostic Laboratories           |

### Innovation Services

| 523 10 Miscellaneous Intermediation                 |
| 541 1 Legal Services                                |
| 541 12 Accounting Tax Preparation, Bookkeeping and Payroll Services |
| 541 33 Engineering Services                         |
| 541 370 Surveying and Mapping (except Geophysical)  |
| 541 380 Testing Laboratories                        |
| 541 611 Administrative Management and General Management Consulting Services |
| 541 612 Human Resources and Executive Search Consulting Services |
| 541 613 Marketing Consulting Services               |
| 541 620 Environmental Consulting Services           |
| 541 690 Other Scientific and Technical Consulting Services |
| 541 710 Research and Development in the Physical Engineering and Life Sciences (50%) |

### Creative Services

| 541 31 Architectural Services                       |
| 541 32 Landscape Architecture Services              |
| 541 34 Drafting Services                            |
| 541 40 Interior Design Services                     |
| 541 40 Industrial Design Services                   |
| 541 40 Graphic Design Services                      |
| 541 490 Other Specialized Design Services           |
| 541 613 Marketing Consulting Services               |
| 541 818 Advertising and Related Services            |
| 541 911 Marketing Research and Public Opinion Polling |
| 541 912 Photographic Services                       |
| 711 Performing Arts Companies                       |
| 715 10 Independent Artists, Writers and Performers  |

### Corporate Offices

| 551 1 Corporate, Subsidiary and Regional Managing Offices |

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**REFERENCES**


JOINT VENTURE: SILICON VALLEY NETWORK

Established in 1993, Joint Venture: Silicon Valley Network 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

Serving all of San Mateo and Santa Clara counties, Silicon Valley Community Foundation is a partner and resource to organizations improving the quality of life in our region, and to those who want to give back locally, nationally and internationally.

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California Department of Health Services
California Department of Justice
California Department of Motor Vehicles
California Department of Transportation
California Employment Development Department
California Energy Commission
California Franchise Tax Board
California Secretary of State
California State Controller
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School of Social Welfare, University of California, Berkeley
Center for the Continuing Study of the California Economy
City Planning and Housing Departments of Silicon Valley
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Colliers International
DataQuick Information Systems
Federal Bureau of Investigation
GreenInfo Network
Kids in Common
Metropolitan Transportation Commission
Moody’s Economy.com
National Center for Education Statistics
National Center for Charitable Statistics
National Center for Health Statistics
Next: 10
Nielsen/NetRatings
NOVA Workforce Investment Board
Organisation for Economic Co-operation and Development
PricewaterhouseCoopers/National Venture Capital Association MoneyTree™
Report/Thomson Financial
Public Policy Institute of California
RealFacts
SamTrans
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San Mateo County Office of Education
Santa Clara County
Santa Clara County Department of Alcohol & Drug Services,
Alcohol & Drug Services Research Institute
Santa Clara County Office of Education
Santa Clara County Partnership for School Readiness
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Silicon Valley Community Colleges
Silicon Valley Community Foundation
Silicon Valley School Districts
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U.S. Census Bureau
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U.S. Patent and Trademark Office
UCLA Center for Health Policy Research
United Way Silicon Valley
Uniworld Business Publications
Valley Transportation Authority
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City of Morgan Hill
City of Palo Alto
City of Redwood City
City of San Jose

City of Santa Clara
City of Santa Cruz
Redevelopment Agency
Cogswell Polytechnical College
Colliers International
County of San Mateo
County of Santa Clara
Deloitte & Touche
El Camino Hospital Foundation
Ernst & Young
Foothill-DeAnza Community College District Foundation
Gooey Godward Kronish LLP
Half Moon Bay Brewing Company
Hoge Fenton
JETRO
Johnson Controls
Kaiser Permanente
KPMG

Lucile Packard Children’s Hospital
at Stanford
McKinsey & Company
O’Connor Hospital
Oakland Athletics
Pacific Gas & Electric Company
Pipe Trades Training Center of
Santa Clara & San Benito Counties
Robert Half International
SanTrans/Caltrain
San Francisco 49ers
San Jose Convention
& Visitor’s Bureau
San Jose Sharks
San Jose State University
Research Foundation
SanDisk
Santa Clara & San Benito County
Building & Construction Trades Council

Santa Clara Valley Water District
Silicon Valley Power
SolutionSet
Stanford University
SunPower Corporation
SVB Financial Group
Synopsys
The Health Trust
Thersa
University of California at Santa Cruz
Valley Medical Center Foundation
Varian Medical Systems
Volterra
Wilmer-Hale
Wilson Sonsini Goodrich & Rosati LLP
Zanker Road Resource
Management, Ltd.

MULTI YEAR INVESTORS

PRIVATE SECTOR

Accenture
AMD
AT&T
Benhamou Global Ventures LLC
Center for Corporate Innovation
Cogswell Polytechnical College
Comerica Bank
CommerceNet
Cypress Semiconductor Corporation
Deloitte & Touche LLP
El Camino Hospital Foundation
Google, Inc
Hewlett Packard
Kaiser Permanente,
Santa Clara Medical Center
KPMG LLP
Lucile Packard Children’s Hospital
Mckinsey & Company
Menlo College
Pacific Gas & Electric Company
SanJose Convention
& Visitors Bureau
San Jose/Silicon Valley
Business Journal
San Jose State University
Sobrato Development Companies
Solelectron
Stanford University
Summerhill Homes
SunPower Corporation
SVB Financial Group
TDA Group

Thersa
Trident Capital
University of California, Santa Cruz
VoiceObjects, Inc
Wilmer Cutler Pickering
Hale & Door LLP
Wilson Sonsini Goodrich & Rosati

PUBLIC SECTOR

City of East Palo Alto
City of Campbell
City of Fremont
City of Gilroy
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 Palo Alto
City of Redwood City
City of San Carlos
City of San Jose
City of San Mateo
City of Santa Clara
City of Santa Cruz
City of Sunnyvale
City of Union City
County of San Mateo
County of Santa Clara
Town of Los Altos Hills
Town of Los Gatos