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Prepared By:

COLLABORATIVE ECONOMICS
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John Melville
Erica Björnsson
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Heidi Young
Dear Friends:

Last year the Index of Silicon Valley reported a complex picture with indicators pointing upward, downward, and sideways. This year we can see a storyline emerging: our economy is restructuring, our pace is more measured, the jobs we’re creating are more demanding, and as a region, we have work to do in order to ensure broad levels of participation in the global marketplace.

The information presented here shows our region is no longer losing jobs at the dramatic pace ushered in by the dot-com collapse. In fact, we’ve managed to post our first, albeit modest, net increase in jobs in five years. But according to our analysis, the jobs we’re generating are different than before, a change wrought by industrial restructuring and the forces of globalization. Though we’ve posted continuous productivity gains, and though per capita income is on the rise, regional job growth remains sluggish. Moreover, not everyone is benefiting from the changes we’re experiencing, and too many of us are unprepared to participate in a more demanding economy.

What does this mean for Silicon Valley’s long term development? What will be our unique competitive advantage in the new global landscape? If the world is becoming “flat,” as journalist Thomas Friedman has argued, how are we going to secure our place in that new world?

Fortunately, we have some core assets to build upon while we reposition. We continue to add to our talent base, which flows into the Valley from every part of the world. We host an extraordinary set of laboratories and research institutions which fuel local innovation. And with the world’s highest concentration of venture capital and a dense network of supporting industries, our innovation “habitat” is still uniquely positioned to nurture entrepreneurial activity.

Building on these assets, we see Silicon Valley becoming a world center for creativity. As you’ll read in our analysis section, we are increasing our regional advantage as creators of new products, services, companies, and new business models. But in a world where technology products quickly become mass commodities, and in a world where companies create complex global supply chains to make and sell these products, Silicon Valley must constantly find new ways to add value. This means we have to stay on the creative edge of design, marketing and production management.

The story for 2006, then, is how our region restructures as we continue a long-term macroeconomic shift out of the industrial economy and into the idea economy. This shift signals ongoing disruptions and dislocations, for companies and for the labor force. It also signals a critical need for our leaders to evaluate our state of readiness: how serious are we about holding center stage in the idea economy? Are we preparing our people with the tools they need? Do our institutions meet the needs of a transitioning workforce?

The answers to these questions—and the action we take—will determine our place in the global economy.

Sincerely,

Russell Hancock
President & Chief Executive Officer
Joint Venture defines Silicon Valley as Santa Clara County plus adjacent parts of San Mateo, Alameda and Santa Cruz counties. This definition reflects the core location of the Valley's driving industries and most of its workforce. Where possible the indicators in the Index of Silicon Valley use the following definition of Silicon Valley:

**Santa Clara County (all)**
- Campbell, Cupertino, Gilroy, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Morgan Hill, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga, Sunnyvale

**Alameda County**
- Fremont, Newark, Union City

**San Mateo County**
- Atherton, Belmont, East Palo Alto, Foster City, Menlo Park, Portola Valley, Redwood City, San Carlos, San Mateo, Woodside

**Santa Cruz County**
- Scotts Valley

**THE SILICON VALLEY REGION**

- **Area:** 1,500 square miles
- **Population:** 2.43 million
- **Jobs:** 1.15 million
- **Average wage:** $69,455

**Age distribution:**
- 0-9 years old, 15%; 10-19, 13%; 20-44, 42%; 45-64, 21%; 65 and older, 9%

**Adult educational attainment:**
- 82% hold high school diplomas
- 41% hold bachelor's degrees

**Foreign born:** 38%

**Foreign immigration in 2004:** 27,433

**Domestic emigration in 2004:** 24,665

**Ethnic composition:**
- 40% White, non-Hispanic;
- 33% Asian, non-Hispanic;
- 23% Hispanic;
- 3% Black, non-Hispanic;
- 1% American Indian, Alaskan Native, Native Hawaiian or other Pacific Islander

**Foreign immigration in 2004:** 27,433
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In 2005, Silicon Valley experienced its first net increase in jobs in four years, coupled with the largest population gain and sustained increase in per capita income since 2000. This follows a turbulent five-year period of economic restructuring and occupational change that produced both unprecedented job losses and substantial wage gains.

As we emerge from the dot-com collapse, it is clear that Silicon Valley retains strong advantages in the global economy: a diverse, well-educated population; a large pool of scientific, engineering, and business talent; an entrepreneurial culture; and restructured companies that have held their place as industry leaders and innovators. In the past year, most of the region’s key industry clusters began to add jobs again.

Silicon Valley also appears to be growing as a center for creativity in business and technology. This year’s Special Analysis describes growing evidence of new idea creation (in the form of patents) and business creation (in the form of thousands of new start-up firms, and a large share of U.S. venture capital investment). The region’s Creative and Innovation Services cluster has the most firms of any cluster, and now ranks second in employment—the only cluster to experience a net gain in jobs between 2001 and 2005.

Silicon Valley has a much higher concentration of core design, engineering, scientific and business management talent than other regions or the nation. This talent group drives the creation of new ideas, methods, products and services, and business models that produce economic value and prosperity. This group comprises 23% of our cluster employment and 14% of total regional employment—well above regions such as Austin, Seattle, and San Diego (all 8-9%), and the nation overall (2%).

Moreover, a majority of the region’s workforce is in jobs that require creativity. The region’s “creative edge” is not limited to artists or the top tier of technology professionals; it includes people at all levels who generate new ideas and methods using engineering, scientific, design and other knowledge and skills. 62% of all Silicon Valley workers (and 70% of technology workers) report that their jobs require “a fair amount” or “a lot” of creativity.

The past few years have also clarified certain realities about Silicon Valley’s changing economic role. Many companies have grown their revenues and achieved record productivity, but they haven’t added to the region’s job count—choosing in some cases, to outsource work to lower-cost locations. Some workers gained ground over this period, while others lost jobs; some occupations experienced substantial growth, while others recorded sizable declines. The implications of these shifts are not yet fully understood.

Many households are feeling the economic squeeze. While per capita income and average wages are rising, Silicon Valley’s median household income declined for the fourth year in a row, and is now close to what it was a decade ago. The rate of personal bankruptcy filings has risen 50% since 2001. Average apartment rental rates continue to outpace median household income; the percentage of newly approved housing units defined as “affordable” continues to fall.
While educational performance is improving in the region, many students will not be prepared for success in Silicon Valley. Only 33% of 10th and 11th graders—and only 23% of Hispanic youth—are enrolled in intermediate algebra, a gateway course to higher level mathematics. Fewer than half of all 3rd graders—and only 17% of 3rd grade English learners—scored at or above the national median in reading.

Yet, during a period of economic hardship, there is also evidence of the resilience of Silicon Valley.

Despite heavy losses, the region’s employment base continues to have a majority of jobs in mid-wage occupations—between high-wage research and professional service jobs and low-wage personal services jobs.

Almost every education measure in the Index has improved since the beginning of the decade. So has the region’s commitment to education, as measured by amount and rate of bond issues approved.

Almost every health measure has also shown improvement. The share of overweight children, while high, has dropped steadily in recent years. The rate of child immunization has continued to rise steadily. Almost all children are now covered by health insurance, as are about 90% of adults (although only 77% of Hispanics).

Violent and juvenile crime rates, including cases of child abuse, have recorded little change, remaining below the California average.

The region has also logged some important livability gains:

More housing units were approved in 2005 than in any year since 1999. Average units per acre of newly approved residential development has more than doubled since 2001.

Although much higher than in 2000, commercial vacancy rates have declined for the second year in a row. The net change in non-residential development approved in 2005 will shift commercial space closer to major transit corridors.

Environmental measures have improved. Acres of permanently protected open space have steadily increased. Bay water quality (i.e., level of PCBs) is better. The share of non-commercial vehicles using alternative fuel sources nearly doubled to 5% in the past year.

While Silicon Valley has been relatively resilient, the stakes seem to be rising. Despite absorbing a loss of more than 200,000 jobs since 2000, the region has held onto much of its core talent and industry strengths. Job opportunities have grown substantially in some occupations, and thousands of new businesses have formed. Despite economic hardship for some residents, most social and environmental indicators have remained relatively stable or improved. Yet, major challenges remain for a substantial portion of our population: many residents risk being left behind if they do not have the knowledge and skills necessary to compete in the rapidly changing global economy.
WHAT IS THE INDEX?
Joint Venture’s Index of Silicon Valley has been telling the Silicon Valley story since 1995. Released every January, 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.

PEOPLE
Silicon Valley has a growing, well-educated, diverse population with significant foreign talent.

Silicon Valley population grew by 1%, the largest increase since 2000, as immigration increased and emigration decreased.

ENGINEY
Silicon Valley’s economy remains one of the most innovative in the nation. Employment is growing again and per capita income has been rising; however, median household income has remained flat for over the past decade.

WEBSITE'S SHARE OF ALL US VENTURE CAPITAL INVESTMENT

THE NATIONAL SHARE OF PATENTS GRANTED TO SILICON VALLEY INVESTORS INCREASED AT A FASTER RATE THAN ANY PERIOD SINCE ‘97–’98

1995 2005
VALUE ADDED BY SILICON VALLEY EMPLOYEES INCREASED AT MORE THAN TWICE THE US AVERAGE

EMPLOYMENT INCREASED FOR THE FIRST TIME IN FOUR YEARS

TOTAL AVERAGE PAY ($69,455) AND PER CAPITA INCOME ($53,633) BOTH GREW FOR THE SECOND YEAR IN A ROW, AND ARE NOW ABOVE 1999 LEVELS

MEDIAN HOUSEHOLD INCOME

<table>
<thead>
<tr>
<th>Percentile</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>80th</td>
<td>$148,113</td>
</tr>
<tr>
<td>Median</td>
<td>$84,987</td>
</tr>
<tr>
<td>20th</td>
<td>$44,786</td>
</tr>
</tbody>
</table>
While Silicon Valley’s overall educational performance has been improving, significant variations by race and ethnicity still exist. Health care outcomes remained relatively unchanged. Crime rates declined slightly.

Students taking requirements for entrance to UC/CSU

Enrollment in Intermediate Algebra increased for the fourth year

10th & 11th graders enrolled in algebra, with disparity across racial/ethnic groups

Third graders who scored below national median in reading – no change from last year

Immunization rate for young children; rising for fourth year

Overweight Youth

Overall health insurance coverage remained unchanged, however racial and ethnic disparities persist

6 times as many applicants for community college nursing training programs as there are spaces available

Silicon Valley is preserving open space, increasing housing density and approving housing near transit. However, transit ridership is declining. Housing affordability improved slightly and is now above the California average.

Silicon Valley’s share of protected open space continues to increase

of new cars in Silicon Valley use alternative fuel

1998 2005

New approved residential developments now at 21 units per acre

2005: Share of new housing approved near transit

8 year average

Transit ridership declined for the fourth straight year; and revenue hours declined for the third straight year

Households able to afford median priced home in Silicon Valley

California average

Silicon Valley local revenues continued to be constrained, but voters have approved a majority of revenue generating measures.

Total city revenues have declined since 2001, due primarily to the loss of sales tax revenue and other revenue sources (e.g. fees)

Local property tax revenues have returned to pre-Prop 13 (1978) levels

All bonds in 2004/2005 passed

Voter turnout fell for 2005 special election, compared to turnout for 2003 special election

City Revenue

County Revenue

Silicon Valley is preserving open space, increasing housing density and approving housing near transit. However, transit ridership is declining. Housing affordability improved slightly and is now above the California average.

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City Revenue

County Revenue
A Valley of Ideas

Is Our Creative Edge Our Competitive Advantage in the Global Economy?

While Silicon Valley added more jobs than it lost for the first time in four years, the news doesn’t tell us very much about the region’s prospects for the future. The Valley has experienced a turbulent five-year period of economic restructuring and occupational change, producing both unprecedented job losses and substantial wage gains (Figure 1). This striking juxtaposition of job loss against wage gain indicates a fundamental shift to higher-skilled occupations. In light of this, our Special Analysis takes a closer look at the changing economic and occupational structure of Silicon Valley—and what it may mean for the future.

![Figure 1: Changes in Wage Per Employee and Number of Employees, FY2002-FY2005]

**What is Silicon Valley’s Creative Edge?**

*In the years since the dot-com collapse, Silicon Valley has solidified its position as a global center for creativity in business and technology.* Silicon Valley has long been effective at attracting entrepreneurs, incubating new companies, creating new products and services and introducing entirely new business models. The region also has a documented, well-established infrastructure of financial, legal, business and other start-up expertise. But our experience these past five years offers additional evidence that Silicon Valley’s most important competitive edge may be its “creative edge.”

*The region is a growing center for new idea creation.* More than 10% of all the nation’s patents are generated in Silicon Valley, up from 5% a decade ago. Patents per capita have more than tripled, from 114 to 377 per 100,000 residents between 1994 and 2004.
The region is a growing center for new business creation. More than 25% of all venture capital in the United States is invested in Silicon Valley, up from 18% a decade ago. Even while the region was losing jobs, thousands of new companies were created. As last year’s Index noted, about 23,800 net new firms (with an average size of seven employees) were created during the 2000-2002 period. In fact, Silicon Valley is constantly renewing its company base: 46% of all the region’s firms were started in the five years spanning 1998 to 2002, representing 30% of all the region’s jobs.

The region’s creative and innovation services cluster is showing remarkable growth. The cluster includes professional service firms in such areas as research and development, scientific & technical consulting, engineering services, and industrial design. It was the fourth largest cluster in the region in 2001; today, it is the second largest cluster—behind only software. It was the only cluster to experience a net gain in jobs (4%) during the 2001-2005 period. The cluster’s employment concentration compared to the nation’s also rose during this time, by 15%. Moreover, creative and innovation services has the largest number of firms of any cluster (6,565), adding 3% more firms over the 2001-2005 period.

Silicon Valley has a much higher concentration of core design, engineering, scientific and business management talent than other regions or the nation. This group, including both top-level and key support occupations, drives the creation of new ideas, methods, products and services, and business models that produce economic value and prosperity. As Figure 2 shows, this group comprises 23% of cluster employment and 14% of total regional employment—well above regions such as Austin, Seattle, San Diego (all 8-9%) and the nation as a whole (2%).

**Figure 2A: Core Design, Engineering, Scientific, and Business Management Talent Contribution to Economy**

| Share of Creative Occupations in Silicon Valley Clusters | 23% |
| Share of Creative Occupations in Total Economy | 14% |

Source: California Employment Development Department

**Figure 2B: Core Design, Engineering, Scientific, and Business Management Talent as Share of Total Regional Employment**

<table>
<thead>
<tr>
<th>Region</th>
<th>Share of Total Regional Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Diego, CA</td>
<td>8.1%</td>
</tr>
<tr>
<td>Seattle, WA</td>
<td>8.7%</td>
</tr>
<tr>
<td>Austin, TX</td>
<td>9.3%</td>
</tr>
<tr>
<td>Silicon Valley</td>
<td>14%</td>
</tr>
</tbody>
</table>

Although Silicon Valley's population grew by less than one percent last year, it was the largest increase since 2000. While the rate of natural change remained virtually the same, immigration increased and emigration decreased, resulting in a much smaller net outflow of people than the past two years.

Educational attainment among adults in Silicon Valley remains high, with eighty-two percent of the population having at least a high school diploma and forty-one percent holding a bachelor's degree.

Our region has one of the most diverse populations in the nation. An important component of the region's changing population is the addition of legal immigrants from abroad. Thirty-eight percent of Silicon Valley residents are foreign-born. As of the year 2000, fifty-three percent of engineers and scientists in Silicon Valley's clusters were foreign born. This figure is substantially higher than the concentration of foreign-born engineers in other technology regions (e.g., Austin, Boston).

In 2004, the rate of legal immigration rose for the first time since 2001, following a dramatic decrease in the rate of immigration at the regional, state, and national levels over the 2002-2003 period. Though the rate of immigration into Silicon Valley remains below its 2001 peak, it is currently higher than the second half of the 1990s. The share of residents who became citizens also rose for the first time since 2000.

The preparation of new talent in Silicon Valley is above average and growing. The engineering and science degrees conferred per capita in the region is much higher than the California average, and has grown steadily since 2001. At the same time, the share of these degrees conferred to temporary, non-permanent residents has grown steadily since 1997—and is now eighteen percent of the total.
Silicon Valley has a growing, well-educated, diverse population with significant foreign talent.

Net migration dropped 59% between 2003 and 2004.

### Population

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
<th>% change</th>
</tr>
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<tbody>
<tr>
<td>2004</td>
<td>2,407,435</td>
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<tr>
<td>2005</td>
<td>2,429,868</td>
<td>0.9%</td>
</tr>
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</table>

Sources: California Department of Finance
**Foreign Immigration**

Rate of Legal Immigration to Santa Clara/San Mateo Counties and California

- **Legal immigration rate** rose 56% between 2003 and 2004.
- **Silicon Valley** rate of legal immigration 60% higher than California and 350% higher than US in 2004.

Source: Department of Homeland Security

---

**Naturalized Citizens**

Annual Naturalizations as a Share of Population, San Jose Metropolitan Statistical Area

- 2% of Silicon Valley population became **naturalized** citizens or **legal permanent** residents in 2004.

Source: Department of Homeland Security
Silicon Valley has a growing, well-educated, diverse population with significant foreign talent.

### Science and Engineering Education

Engineering and Science Degrees Conferred Per Capita

- **Silicon Valley and Surrounding Regions**
- **Per 100,000 People**

**60% more**

engineering and science degrees conferred, per capita, in Silicon Valley than in California, **down from 100% more** in 1994

**Source:** National Center for Education Studies, California Department of Finance Demographic Research Unit

*Data Not Available

### Degrees Conferred, by Discipline, 2004

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>48%</td>
</tr>
<tr>
<td>Biological and Biomedical Sciences</td>
<td>32%</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>10%</td>
</tr>
<tr>
<td>Mathematics and Statistics</td>
<td>7%</td>
</tr>
<tr>
<td>Engineering Technologies/Technicians</td>
<td>3%</td>
</tr>
</tbody>
</table>

### Educating Foreign Talent

**27% increase**

in degrees conferred to foreign, nonpermanent U.S. residents, 1994-2004

**Source:** National Center for Education Studies
Why Is This Important?

Innovation drives the economic success of Silicon Valley. The ability to generate new ideas, products and processes is an important source of regional competitive advantage. To measure innovation, we examine both the process (i.e., investment in innovation, idea generation) as well as the results (i.e., number of fast-growing innovative firms, value-added across the economy).

New venture capital investment is a leading indicator of the region’s innovation process. Companies that have passed the screen of venture capitalists are innovative, entrepreneurial, and have high growth potential. Patents are an indicator of a region’s ability to create and apply new knowledge.

To measure results, we count the number of gazelles—innovative companies whose revenues have grown at least twenty percent for each of the last four years, starting with at least $1 million in sales. We also examine value-added as a proxy for productivity, and as a reflection of how much economic value Silicon Valley companies create. Innovation, process improvement and industry/product mix are all factors that drive value-added, which in turn drives changes in wages.

How Are We Doing?

The number of Silicon Valley patents per capita continued to rise, and the share of patents granted to Valley inventors increased at a faster rate during 2003-2004 than any period since 1997-1998.

Value-added by Silicon Valley employees increased from 2004-2005 at more than twice the national rate.

Preliminary venture capital data for 2005 shows a slight decrease in investment from 2004, as well as a slight decrease in share of total U.S. venture capital investment that is made in Silicon Valley firms.

The number of gazelle firms remained about the same in 2005. However, Silicon Valley still receives twenty-six percent of all U.S. venture capital investment, and almost half of all funding for companies specializing in computers or peripherals, networking and equipment, and semiconductors.

Value Added

<table>
<thead>
<tr>
<th>Value Added Per Employee, Santa Clara/San Mateo Counties and U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>U.S.</td>
</tr>
<tr>
<td>Silicon Valley</td>
</tr>
</tbody>
</table>

Source: Economy.com

Value Added

rate of increase 2004-2005

Silicon Valley  4.4%
U.S.            2.0%
Our innovative economy remains a national leader in patents, venture capital and value added, although venture capital spending declined slightly this year.

9,060 patents granted to SV inventors in 2004

Patents granted per 100,000 people increased by 35% nationally and 232% regionally between 1994 and 2004

47% of California patents granted to Silicon Valley in 2004

11% of US patents granted to Silicon Valley in 2004
**Venture Capital Dollars**

Total Venture Capital Financing in Silicon Valley Firms, Silicon Valley Cities and US

- **Silicon Valley Share of US Venture Capital Investments**
  - 1995: 18%
  - 2005: 26%

- **Share of VC funding for biotechnology, medical devices, and equipment**
  - rose from 7% to 20% over the 2000-2005 period

**10 percent**

Venture capital investment in Q3 2005 is down 10% from Q3 2004


* Current as of Q3 2005
Our innovative economy remains a national leader in patents, venture capital and value added, although venture capital spending declined slightly this year.

Venture Capital by Industry

Venture Capital Investment in Silicon Valley by Industry, Q1-Q3 2005

Number of gazelle firms in first three quarters of 2005

same as number of gazelles in first three quarters of 2004

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Gazelle Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>40</td>
</tr>
<tr>
<td>1996</td>
<td>35</td>
</tr>
<tr>
<td>1997</td>
<td>30</td>
</tr>
<tr>
<td>1998</td>
<td>25</td>
</tr>
<tr>
<td>1999</td>
<td>20</td>
</tr>
<tr>
<td>2000</td>
<td>15</td>
</tr>
<tr>
<td>2001</td>
<td>10</td>
</tr>
<tr>
<td>2002</td>
<td>5</td>
</tr>
<tr>
<td>2003</td>
<td>3</td>
</tr>
<tr>
<td>2004</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Standard and Poor's Company Database

* Estimate
To better understand the complex Silicon Valley economy, we examine the performance of related industry sectors, or “clusters.” We focus on outward-oriented clusters, as they are the primary source of wealth creation for our region. The extent to which a cluster represents a competitive advantage for our region is measured by its employment concentration—a calculation that compares the percentage of regional employment with the percentage of national employment in that cluster.

By looking at average-wage data for the clusters and their change over time relative to the national averages for those clusters, we can see how highly valued their work is compared to workers in other industries and similar clusters throughout the United States.

With two exceptions, Silicon Valley clusters gained concentration relative to the United States between FY 2002 and FY 2005. The exceptions were Corporate Offices and Biomedical. Clusters such as Semiconductor and Semiconductor Equipment Manufacturing, as well as Computer and Communications Hardware Manufacturing are over ten times more concentrated than the nation. Despite losing some ground, the Biomedical cluster is over three times more concentrated than the nation. Creative and Innovation Services was the only cluster that experienced a net gain in employment during this period. This cluster includes professional service firms in areas such as research and development, scientific and technical consulting, engineering services, and industrial design.

All the clusters also experienced wage gains, ranging from five to twenty-five percent increases between FY 2002 and FY 2005. Moreover, the average wage in Silicon Valley clusters is forty-five to eighty percent higher than average wages in those clusters nationwide.

Biomedical and Creative and Innovation Services are the only clusters that gained establishments from FY 2002 through FY 2005. This increase in net establishments suggests that the ratio of business openings to business closings is growing within these clusters.
Only the creative and innovation services cluster gained employment since 2001, while all industry clusters experienced significant wage gains. Bioscience and creative and innovative services clusters gained the most establishments since 2001.

Average Cluster Wage in Silicon Valley is 75% higher than the U.S. average cluster wage. Overall Cluster wages in Silicon Valley rose 5% faster than in the rest of the U.S. Most of this increase was driven by rising software salaries which grew 22% faster in SV than across the U.S.

**Silicon Valley Cluster Portfolio by Change in Average Wage FY 2002 - FY 2005 (Vertical Axis), Average Wage FY 2005 (Horizontal Axis), and Average Employment, FY 2005 (Size of Circle)**

Source: California Employment Development Department, US Bureau of Labor Statistics

**Silicon Valley Clusters (FY 2005)**

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Employment Concentration Relative to US</th>
<th>Average Employees per Establishment</th>
<th>Ratio of SV Wages to US Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomedical</td>
<td>3.06</td>
<td>64</td>
<td>1.45</td>
</tr>
<tr>
<td>Computer and Communications Hardware Manufacturing</td>
<td>11.82</td>
<td>156</td>
<td>1.54</td>
</tr>
<tr>
<td>Corporate Offices</td>
<td>1.30</td>
<td>77</td>
<td>1.68</td>
</tr>
<tr>
<td>Creative and Innovation Services</td>
<td>1.51</td>
<td>11</td>
<td>1.57</td>
</tr>
<tr>
<td>Electronic Component Manufacturing</td>
<td>7.75</td>
<td>63</td>
<td>1.59</td>
</tr>
<tr>
<td>Semiconductor and Semiconductor Equipment Manufacturing</td>
<td>16.69</td>
<td>92</td>
<td>1.55</td>
</tr>
<tr>
<td>Software</td>
<td>6.29</td>
<td>23</td>
<td>1.80</td>
</tr>
</tbody>
</table>
How Are We Doing?

Jobs increased slightly for the first time in four years. Gains were even stronger in a few of Silicon Valley’s driving clusters. The Creative & Innovation Services cluster grew the fastest, with Software close behind. In other Silicon Valley industries, Financial Services showed the strongest employment growth from 2004 to 2005. The Semiconductor and Semiconductor Equipment Manufacturing and Corporate Offices Clusters and Business Services Industry contracted the most over the last year.

The number of Silicon Valley residents who are employed increased for the first time since 2000, combined with a second year of declining unemployment. As of June 2005, the rate of unemployment had reached its lowest level since June 2001.

Why Is This Important?

Job gains or losses are a basic measure of economic health. We examine overall jobs, as well as employment in industry clusters and other major industries. In addition, to get a full picture of employment in Silicon Valley, we include household survey statistics that tell us how many residents are employed and the rate of unemployment within the Silicon Valley-based workforce.
Silicon Valley added jobs for the first time since 2001. All industry clusters except semiconductors and corporate offices added employment this year.

### Industry Cluster Employment

Cluster Employment in Second Quarter 2005 with Change Over Prior Year, Silicon Valley Cities

<table>
<thead>
<tr>
<th>CLUSTERS</th>
<th>Job Change FY 2004 to FY 2005</th>
<th>Jobs in FY 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software</td>
<td>3,364</td>
<td>97,455</td>
</tr>
<tr>
<td>Creative and Innovation Services</td>
<td>2,710</td>
<td>73,826</td>
</tr>
<tr>
<td>Semiconductor and Semiconductor Equipment Manufacturing</td>
<td>-3,307</td>
<td>56,393</td>
</tr>
<tr>
<td>Computer and Communications Hardware Manufacturing</td>
<td>927</td>
<td>55,305</td>
</tr>
<tr>
<td>Electronic Component Manufacturing</td>
<td>548</td>
<td>24,108</td>
</tr>
<tr>
<td>Biomedical</td>
<td>71</td>
<td>21,471</td>
</tr>
<tr>
<td>Corporate Offices</td>
<td>-6,049</td>
<td>15,018</td>
</tr>
</tbody>
</table>

Source: California Employment Development Department

The Silicon Valley workforce dropped by 118,600 people from 2000 to 2005, but rose 5,500 from 2004 to 2005—the first increase in workforce since 2001.

### Other Industry Employment

Employment in Other Industries in Second Quarter 2004 with Change Over Prior Year, Silicon Valley Cities

<table>
<thead>
<tr>
<th>Employment Changes FY 2004 to FY 2005</th>
<th>FY 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Services</td>
<td>5,177</td>
</tr>
<tr>
<td>Construction</td>
<td>1,223</td>
</tr>
<tr>
<td>Finance</td>
<td>562</td>
</tr>
<tr>
<td>Government</td>
<td>43</td>
</tr>
<tr>
<td>Healthcare</td>
<td>87</td>
</tr>
<tr>
<td>Information Technology</td>
<td>78</td>
</tr>
<tr>
<td>Insurance</td>
<td>1,037</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>1,182</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>2,157</td>
</tr>
<tr>
<td>Transportation</td>
<td>71</td>
</tr>
<tr>
<td>Utilities</td>
<td>1,315</td>
</tr>
<tr>
<td>Professional Services</td>
<td>2,296</td>
</tr>
<tr>
<td>Total</td>
<td>12,768</td>
</tr>
</tbody>
</table>

Source: California Employment Development Department
Growth of average annual pay in inflation-adjusted terms is an indicator of job quality. It is as important a measure of Silicon Valley’s economic vitality as job growth. Average pay includes salary, wages, bonuses and stock options.

Average pay in Silicon Valley’s driving industry clusters reflects the wealth-generating impact of our outward-oriented industries (industries that sell to customers outside the region). Average pay in the industry clusters and other industries reflects level of demand for skilled workers.

Real per capita income measures total personal income from all sources (e.g., wages, investment earnings, self-employment) adjusted for inflation and divided by the total resident population. Per capita income rises when a region generates wealth faster than its population increases.

Household income distribution tells us more about concentrations of income, and if economic gains are reaching all members of the region. This data is supplemented by an examination of the annual rate of bankruptcy filings.

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Real per capita income rose for the second consecutive year. From 1995 to 2005, Silicon Valley per capita income rose nine percent faster than the national average. Average pay continues to track closely with per capita income. Silicon Valley per capita income nine percent faster than the national average during the 1995-2005 period.

Household incomes at the median and 80th percentile fell for the third year, while incomes at the 20th percentile rose marginally. Possible reasons for the decline in median household income, while average wages rose, include a decrease in the average number of household members in the workforce.

The per capita rate of bankruptcies filed in Silicon Valley dropped marginally, and is still well below the California average. While the rate of personal bankruptcy filings has risen fifty percent since the peak of the bubble in 2001, it remains below the bankruptcy rates of the late 1990s.

Total average pay for Silicon Valley employees grew for the second consecutive year, and in real dollars is almost equal to average pay in 2001. Average pay rose in all of our industry clusters, except for Semiconductor and Semiconductor Equipment Manufacturing, both of which fell following an unusually high average wage in 2004. Wages in Corporate Offices grew the most, followed by Financial Services, Software, Creative & Innovation Services.

Why Is This Important?

- Growth of average annual pay in inflation-adjusted terms is an indicator of job quality. It is as important a measure of Silicon Valley’s economic vitality as job growth. Average pay includes salary, wages, bonuses and stock options.
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How Are We Doing?

- Real per capita income rose for the second consecutive year. From 1995 to 2005, Silicon Valley per capita income rose nine percent faster than the national average. Average pay continues to track closely with per capita income. Silicon Valley per capita income nine percent faster than the national average during the 1995-2005 period.
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Real Per Capita Income

Santa Clara and San Mateo Counties

- $56,633 Average per capita income
- 22.5% increase 1995-2005
- Silicon Valley per capita income 1.55 times greater than the nation
Per capita income and average pay increased for the second year in a row. Median household income declined slightly in 2004 and was unchanged over the decade.

**Income Distribution**

### Household Income Distribution, Santa Clara County

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>80th</td>
<td>5%</td>
<td>-2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>0%</td>
<td>-5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20th</td>
<td>-1%</td>
<td>1%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: US Census Bureau

**% Change in Household Income**

Business bankruptcy filings fell 26% from FY 2004, for a total of 302 business filings in FY 2005.

6600 non-business bankruptcy filings in FY 2005

**Bankruptcy**

Business and Non-Business Bankruptcy Filings Per Capita, San Mateo and Santa Clara Counties

Source: United States Judiciary
Industry Cluster Pay
Average Per Employment Pay, with Change Over Prior Year;
Silicon Valley Industry Clusters, 2005

<table>
<thead>
<tr>
<th>Cluster</th>
<th>FY 2005</th>
<th>Percent Change FY 2002 to FY 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomedical</td>
<td>$96,371</td>
<td>19%</td>
</tr>
<tr>
<td>Computer and Communications Hardware Manufacturing</td>
<td>$131,941</td>
<td>19%</td>
</tr>
<tr>
<td>Corporate Offices</td>
<td>$130,596</td>
<td>24%</td>
</tr>
<tr>
<td>Creative and Innovation Services</td>
<td>$96,699</td>
<td>12%</td>
</tr>
<tr>
<td>Electronic Component Manufacturing</td>
<td>$75,414</td>
<td>10%</td>
</tr>
<tr>
<td>Semiconductor and Semiconductor Equipment Manufacturing</td>
<td>$123,401</td>
<td>12%</td>
</tr>
<tr>
<td>Software</td>
<td>$141,972</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: California Employment Development Department
Per capita income and average pay increased for the second year in a row. Median household income declined slightly in 2004 and was unchanged over the decade.

**Other Industry Pay**

Average Per Employee Pay, With Change Over Prior Year,
Other Silicon Valley Industries, FY 2005

<table>
<thead>
<tr>
<th>Industry</th>
<th>Average Pay FY 2005</th>
<th>Percent Change FY 2002 to FY 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Services</td>
<td>$99,439</td>
<td>5%</td>
</tr>
<tr>
<td>Transportation/ Distribution</td>
<td>$67,602</td>
<td>4%</td>
</tr>
<tr>
<td>Miscellaneous Manufacturing</td>
<td>$66,048</td>
<td>9%</td>
</tr>
<tr>
<td>Health Care</td>
<td>$55,890</td>
<td>13%</td>
</tr>
<tr>
<td>Industrial Supplies Services</td>
<td>$54,633</td>
<td>2%</td>
</tr>
<tr>
<td>Building/Construction/ Real Estate</td>
<td>$52,177</td>
<td>-9%</td>
</tr>
<tr>
<td>Business Services</td>
<td>$41,505</td>
<td>-1%</td>
</tr>
<tr>
<td>Retail/ Consumer Services</td>
<td>$28,282</td>
<td>-2%</td>
</tr>
<tr>
<td>Visitor</td>
<td>$24,450</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: California Employment Development Department

**Average Pay**

Average Pay Per Employee, Silicon Valley Cities

- $69,455 Average pay per employee
- **+ 2.7% Increase** FY 2004 - FY 2005

Source: California Employment Development Department
The likelihood of economic success in Silicon Valley is correlated with post-secondary education or training. Two indicators of a person’s preparation for post-secondary education are high school graduation and courses in intermediate algebra, which is considered a necessary “gateway” into higher-level mathematics.

The region’s community colleges shoulder a major responsibility for preparing residents to participate in our competitive economy. By offering programs that teach high-value skills, community colleges help individuals gain economic mobility and prepare a workforce to meet employer needs.

This year we use a new methodology to measure the rate of graduation, called the Cumulative Promotion Index. The indicator measures the likelihood that a ninth grader in Silicon Valley will complete high school with a regular diploma in four years.

The extent to which the Silicon Valley education system succeeds in helping students to attain these levels of education will directly impact students’ ability to succeed in a knowledge-based economy.

Why Is This Important?

The likelihood of economic success in Silicon Valley is correlated with post-secondary education or training. Two indicators of a person’s preparation for post-secondary education are high school graduation and courses in intermediate algebra, which is considered a necessary “gateway” into higher-level mathematics.

The region’s community colleges shoulder a major responsibility for preparing residents to participate in our competitive economy. By offering programs that teach high-value skills, community colleges help individuals gain economic mobility and prepare a workforce to meet employer needs.

How Are We Doing?

Community colleges in Silicon Valley are highly constrained, particularly in high-demand occupations such as health care. Applicants have exceeded available class space in growing numbers since 2001 for registered nursing (AA and AS degrees), as well as licensed vocational nursing programs. Each program had more than 6 people apply for every seat. Although the number of class openings have increased, demand still far outweighs supply.

The graduation rate fell in the last year to the lowest point since the 1997-1998 school year. At the same time, the share of graduating students who met the UC/CSU entrance requirements rose to the highest rate in the last ten years.

Enrollment in Intermediate Algebra increased for the fourth consecutive year. However, only one-third of students in 10th and 11th grades were enrolled in this subject during the 2004-2005 school year. In addition, disparity in enrollment persists across racial and ethnic groups, though there have been some gains since the 2001-2002 school year. Pacific Islanders was the only group to experience a decline in enrollment in Intermediate Algebra enrollment since 2003-2004.

Preparation for Economic Success

Rate of Graduation, and Share of Graduates Who meet UC/CSU Requirements, Silicon Valley High Schools

<table>
<thead>
<tr>
<th>Year</th>
<th>Graduation Rate (%)</th>
<th>UC/CSU Requirement Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994-95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995-96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996-97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1997-98</td>
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<tr>
<td>1998-99</td>
<td></td>
<td></td>
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<tr>
<td>1999-00</td>
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<tr>
<td>2000-01</td>
<td></td>
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<tr>
<td>2001-02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002-03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004-05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Rate of graduation fell from 85% in 2003/2004 to 74% in 2004/2005

The share of graduates who met UC/CSU requirements in 2004/2005 rose 18%, to 46%

Workforce Training

Ratio of Applicants to Openings for Nursing Programs, Silicon Valley Community Colleges

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th># of Applicants per class seat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered Nurse (AS)</td>
<td>2.09 6.35</td>
</tr>
<tr>
<td>Registered Nurse (AA)</td>
<td>1.60 8.40</td>
</tr>
<tr>
<td>Licensed Vocational Nurse</td>
<td>2.77 7.00</td>
</tr>
</tbody>
</table>

Source: Silicon Valley Community Colleges
Graduation rates declined while share of students who met UC/CSU requirements rose. Enrollment in Intermediate Algebra increased, but disparities persist by race and ethnic groups.


**Overall Algebra Enrollment**

<table>
<thead>
<tr>
<th>Year</th>
<th>1997-1998</th>
<th>2004-2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>20%</td>
<td>21%</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>17%</td>
<td>33%</td>
</tr>
<tr>
<td>Asian</td>
<td>39%</td>
<td>41%</td>
</tr>
<tr>
<td>Filipino</td>
<td>30%</td>
<td>31%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>13%</td>
<td>23%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>22%</td>
<td>20%</td>
</tr>
<tr>
<td>White</td>
<td>30%</td>
<td>38%</td>
</tr>
<tr>
<td><strong>Average Enrollment</strong></td>
<td><strong>27%</strong></td>
<td><strong>33%</strong></td>
</tr>
</tbody>
</table>

Source: California Department of Education
Brain development during the first years of life lays the foundation for cognitive and language skills, social functioning, motor skills, and emotional well-being. Early childhood education is essential to preparing a child for kindergarten, influencing a broad range of skills including social, early language, and pre-reading skills.

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.

Overall, Silicon Valley third graders scored below the national median for the 2004-2005 school year. These results show virtually no change from the 2003-2004 school year and only a slight increase from the 2002-2003 school year. At the same time, the share of Silicon Valley English Learners reading at or above the national median, while extremely low at seventeen percent, did increase thirteen percent in the past year.

The Santa Clara County Partnership for School Readiness and the Peninsula Partnerships for Children, Youth & Families in partnership with Applied Survey Research evaluated a representative sample of entering students on five dimensions of school readiness. When kindergarten readiness is analyzed over time, San Mateo County’s average readiness scores have continued to improve throughout the years (2001 through 2005 – the study was not conducted in 2004). In Santa Clara County, where kindergarten readiness research was conducted for the first time in 2004, results show a slight decrease in overall readiness from 2004 to 2005. On average, children who had some preschool experience scored higher on all five dimensions than those without preschool experience, most significantly in their communication and language usage.

Overall kindergarten readiness in San Mateo County increased 2.5% from 2003 to 2005, while readiness in Santa Clara County fell 1.5% from 2004 to 2005.
Third graders scored below the national median in reading.

### 3rd Grade Reading Ability

<table>
<thead>
<tr>
<th>Share of Silicon Valley Third Grade English Learners</th>
<th>Scoring at National Benchmarks on Cat/6 Reading Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom Quartile</td>
<td>0%</td>
</tr>
<tr>
<td>Between Median and Lowest Quartile</td>
<td>10%</td>
</tr>
<tr>
<td>Between Median and Top Quartile</td>
<td>20%</td>
</tr>
<tr>
<td>Top Quartile</td>
<td>50%</td>
</tr>
</tbody>
</table>

Source: California Department of Education

### ALL SILICON VALLEY THIRD GRADERS

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Quartile</td>
<td>21%</td>
<td>22%</td>
</tr>
<tr>
<td>Between Median and Top Quartile</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Between Median and Lowest Quartile</td>
<td>26%</td>
<td>25%</td>
</tr>
<tr>
<td>Bottom Quartile</td>
<td>29%</td>
<td>28%</td>
</tr>
</tbody>
</table>
Arts and cultural activities are important for Silicon Valley’s economic and civic future. Creative people are crucial to an economy based on innovation. Participation in arts and cultural activities spurs creativity and increases exposure to diverse people, ideas and perspectives.

This year’s Arts and Culture indicators are drawn from the 2005 Creative Community Index, published by Cultural Initiatives Silicon Valley.

Nine out of ten Silicon Valley residents think that arts education should be required for school children along with English, math and science. In practice, however, even those districts that have made a commitment to improving their arts programs find it challenging to stay the course. Among 17 Santa Clara County school districts participating in a special 5-year program to establish arts policies, standards, curricula, and instruction, three out of five offer 30-60 minutes of weekly arts instruction for all elementary students in at least one arts discipline, well short of the 3 hours per week Silicon Valley residents think should be devoted to arts instruction in schools.

The majority of adults in Silicon Valley actively participate in some form of artistic expression, the most common of which is playing a musical instrument. Creative writing/poetry is the second most common activity, followed by dance and painting. On average culturally-active Silicon Valley adults spend 4-5 hours on arts and culture activities per week.

**Question:** Do you think that arts education classes should be required for school children along with English, math, science and other courses?

Santa Clara County 2005

Source: Cultural Initiatives Silicon Valley

**Arts in Education**

2% Not Sure/No Opinion

NO 9%

YES 89%

**Why Is This Important?**

Arts and cultural activities are important for Silicon Valley’s economic and civic future. Creative people are crucial to an economy based on innovation. Participation in arts and cultural activities spurs creativity and increases exposure to diverse people, ideas and perspectives.

**How Are We Doing?**

Nine out of ten Silicon Valley residents think that arts education should be required for school children along with English, math and science. In practice, however, even those districts that have made a commitment to improving their arts programs find it challenging to stay the course. Among 17 Santa Clara County school districts participating in a special 5-year program to establish arts policies, standards, curricula, and instruction, three out of five offer 30-60 minutes of weekly arts instruction for all elementary students in at least one arts discipline, well short of the 3 hours per week Silicon Valley residents think should be devoted to arts instruction in schools.

The majority of adults in Silicon Valley actively participate in some form of artistic expression, the most common of which is playing a musical instrument. Creative writing/poetry is the second most common activity, followed by dance and painting. On average culturally-active Silicon Valley adults spend 4-5 hours on arts and culture activities per week.

**How many hours of arts education should Silicon Valley grade-school students receive each week?**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Share of support from Silicon Valley residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>8+</td>
<td>5.1 %</td>
</tr>
<tr>
<td>6-8</td>
<td>4.1 %</td>
</tr>
<tr>
<td>4-6</td>
<td>31.4 %</td>
</tr>
<tr>
<td>2-4</td>
<td>35.6 %</td>
</tr>
<tr>
<td>1-2</td>
<td>12.6 %</td>
</tr>
<tr>
<td>0-1</td>
<td>2.5 %</td>
</tr>
<tr>
<td>Don’t know/refused</td>
<td>8.5 %</td>
</tr>
</tbody>
</table>
Nine out of ten residents think that arts education should be required along with English, math and science.
**Why Is This Important?**

Poor health outcomes generally correlate with poverty, which correlates with poor access to preventative health care and education.

Timely childhood immunizations promote long-term health, save lives, prevent significant disability and reduce medical costs.

Access to quality health care is heavily influenced by health insurance coverage. Because health care is expensive, individuals who have health insurance are more likely to seek routine medical care and to take advantage of preventative health-screening services than those without coverage—resulting in a healthier population.

Studies indicate that overweight children and adolescents are at increased risk for obesity-related adult diseases, including coronary heart disease, hypertension and type II diabetes.

**How Are We Doing?**

The rate of immunization for young children in Silicon Valley rose for the fourth consecutive year, mirroring state and national trends, and reflecting a regional effort to increase the share of children receiving timely immunizations.

The share of overweight children in grades 5, 7, and 9 has decreased steadily since 1999, with the greatest improvement taking place among 5th graders. Yet in 2004, twenty-nine percent of children were overweight.

Overall health insurance coverage remained relatively unchanged from 2001 to 2003. The share of coverage in Silicon Valley hovered around ninety percent, compared with eighty-six percent coverage statewide average. Race disparities continue in the region, with Latinos and American Indian/Alaskan Natives having significantly lower coverage than other ethnic groups.

**Immunization of Children**

Rate of Immunization for Children Ages 19-35 Months

- 2000
- 2001
- 2002
- 2003
- 2004

**Overweight Youth**

Share of Overweight Youth in Grades 5, 7, and 9

- San Mateo and Santa Clara Counties and California

**29%** of 5th, 7th, and 9th-grade students were overweight in 2004

Share of youth that are overweight fell **14%** from 1999 to 2004
Immunizations for children rose, share of overweight children declined and health insurance coverage remained the same.

The share of residents covered by employer-based insurance declined 7.5% from 2001 to 2003. 24% of Silicon Valley residents are uninsured or are dependent upon public insurance.

Source: California Health Interview Survey
Why Is This Important?

The level and perception of crime in a community are significant factors affecting the quality of life. 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 poor education performance, and of criminality later in life. Safety for the community starts with safety for children in their homes.

How Are We Doing?

The rate of child abuse in Silicon Valley rose five percent from 2003 to 2004, but has otherwise remained relatively constant over the past six years. This is roughly half the statewide average rate of abuse. Violent offenses by juveniles and by adults remained virtually unchanged from 2003, but the rate of violent offenses by juveniles has dropped dramatically since 1994. The rate of violent offenses by adults has not decreased as dramatically, but has declined steadily since 1995.

3,732 cases
of substantiated child abuse per 1,000 children in 2004

6.2 cases
of substantiated child abuse per 1,000 children in 2004
Child abuse rose but juvenile and adult crime remained virtually unchanged.

Rate of violent offenses by juveniles dropped 54% from 1994-2004

288 violent juvenile offenses per 100,000 youth in 2004

2004 Violent Offenses, Juvenile

Violent Offenses per 100,000 10- to 17-Year Olds
Santa Clara and San Mateo Counties

Source: FBI Uniform Crime Reports, California Department of Justice

Comparing Rates of Violent Crime:
Ratio of the Silicon Valley Violent Offense Rate to California’s Rate of Violent Offenses

<table>
<thead>
<tr>
<th></th>
<th>1994</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juvenile</td>
<td>97%</td>
<td>83%</td>
</tr>
<tr>
<td>Adult</td>
<td>64%</td>
<td>69%</td>
</tr>
</tbody>
</table>

Rate of violent offenses by adults dropped 19% from 1994-2004

2004 Violent Offenses, Adult

Violent Offenses per 100,000 Adults
Santa Clara and San Mateo Counties

Source: FBI Uniform Crime Reports, California Department of Justice
Environmental quality affects all Silicon Valley residents. Water and air quality directly affect the health of all animals in the region, and are in turn affected by the choices that residents make about how to live—what types of cars we drive, where we build our homes, what contaminants we allow in our water, and how we enforce environmental guidelines.

Measuring the concentrations of polychlorinated biphenyls (PCBs) in the Bay waters (and in the organisms living in the Bay) serves as an indicator of the overall health of the South Bay ecosystem. PCBs were deposited into the bay during the industrial development period and continue to enter the bay as a result of urban and upstream runoff. Although this contaminant was banned from use in the 1970s, PCB contamination remains one of the greatest water quality concerns in the Estuary due to their persistence in the environment, accumulation in Bay wildlife, and potential effects on wildlife reproduction and human health.

Preserving open space protects natural habitats, provides recreational opportunities, focuses development, and maintains the visual appeal of our region.

Motor vehicles are the major source of air pollution for the Bay Area. By choosing vehicles that use alternative sources of fuel, residents can reduce their ecological footprint. Of course, vehicle fuel-type is only one factor by which people impact the environment. In the next section, we will look at land use patterns and the way they influence the use of vehicles.

Overall, only a very small fraction of vehicles registered in Silicon Valley use alternative sources of fuel, but the trend is positive. Five percent of 2005 model-year, non-commercial vehicles registered in Santa Clara County use alternative fuel. Flex Fuel vehicles, which are designed to run on gasoline, alcohol fuel, or a combination, were the most popular of the alternatives purchased between 1999 and 2003. The next most popular alternative is hybrid battery and gasoline technology, which expanded rapidly in 2004 and 2005. Flex Fuel technology is found in a variety of vehicles, ranging from compact cars to pick-up trucks, SUVs, and vans.

PCB contamination in the Lower South Bay improved from 2002 to 2003, but still exceeds the US Environmental Protection Agency and State Water Resources Control Board water quality guideline. PCB concentration declines in Bay Mussles, initially rapid, have slowed since the 1990’s. At the current rate of decline, it could take decades to reach management targets.

Open space continues to increase, due in large part to concerted efforts by the Peninsula Open Space Trust, the Mid-Peninsula Regional Open Space District, and the Santa Clara County Open Space Authority. As of 2005, more than a quarter of the region is protected open space.
Permanent open space increased, PCB contamination improved but still exceeds guidelines and fraction of alternative fuel vehicles is small but increasing.

### Alternate Fuel Vehicles

Share of Non-Commercial Vehicles Registered in Santa Clara County That Use Alternative Fuel Sources, 2005

<table>
<thead>
<tr>
<th>Year</th>
<th>0%</th>
<th>1%</th>
<th>3%</th>
<th>4%</th>
<th>5%</th>
<th>6%</th>
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<tbody>
<tr>
<td>1995</td>
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<td>1996</td>
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<td>2005</td>
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</tbody>
</table>

Source: California Energy Commission

14% of new compact cars in Silicon Valley in 2005 use alternative fuel sources.

38% of new cars were compact cars—making compact cars the most popular size for new cars in Silicon Valley.

Less than 1% of new commercial vehicles use alternative fuel sources.

### Water Quality

Average PCB Concentrations in San Francisco Bay, with California Safety Guideline

- **2002**: 0.17 parts per trillion (ppt)
- **2003**: 0.59 ppt

Lower South Bay: 0.35 ppt, South Bay: 0.57 ppt

Source: San Francisco Estuary Institute
The average density of newly approved residential development increased for the third year in a row to a record twenty-one units per acre—three times the density of development approved in 1998 (the first year of the Joint Venture land use survey).

The share of newly approved housing that will be near transit increased slightly from 2004-2005, but is below the eight-year average of forty-three percent.

For the first time in the history of the land use survey, the net approved change in non-residential space (approvals for additions minus approvals for demolition) will result in a net loss of non-residential space* that is far from transit, the result of a region wide effort to concentrate development near transit.

Revenue hours, a measure of public transit operating time/service, declined for the third straight year, and ridership declined for the fourth year—though at a slower rate than from 2003-2004.

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.

Overall density of land zoned
(Units per acre)

- Single-family residences: 3.6
- Multi-family residential: 6.4

Density of newly approved housing increased 62% from 2004-2005

39% of housing approved in 2005 will be near transit

Share of newly approved housing that will be near transit increased 8% from 2004 to 2005, but is still below 8-year average
The average density of new approved resident development increased and share of newly approved housing near transit increased slightly. Transit ridership declined for the fourth year in a row.

30% decline in rides per capita from 2000-2004

15% decline in revenue hours from 2000-2004
The affordability, variety and location of housing affect 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.

The number of affordable units approved in 2005 was the lowest number approved since the beginning of the survey in 1998, as well as the lowest share of total units.

Apartment rental rates declined for the fifth year but were proportionally twelve percent higher in 2004 than they were in 1994, while median household income did not increase during that period.

Home price affordability rose from 2004-2005, with twenty-three percent of regional households able to afford to purchase a median-priced house in Santa Clara County, compared to nineteen percent of California households able to purchase the median priced home in California.
The number of affordable housing units approved in 2005 was the lowest since 1998. Apartment rental rates declined for the fifth year in a row and housing affordability rose and is now above the California average, but remains well below the nation.

Rental rates are 12% less affordable in 2004 than in 1994.

21% increase in housing affordability for Santa Clara County from 2004 to 2005.

23% increase in housing affordability for San Mateo County from 2004 to 2005, but affordability remains low at 16%.
Why Is This Important?

This indicator tracks the rates of commercial vacancy, availability, and cost, which are leading indicators of regional economic activity. The vacancy rate measures the amount of space that is not occupied. The change in available space shows the impact of absorption and addition to inventory. A negative change in available commercial space shows a tightening in the commercial real estate market. Increases in vacancy, as well as declines in rents, reflect slowing demand relative to supply.

How Are We Doing?

The total square feet of available commercial space declined for the second year in a row, though the vacancy rate is still more than five times the vacancy rate in 2000. While office space had the highest vacancy rates following the economic peak in 2000, in 2005 office space vacancy rates fell below the overall commercial rate of vacancy. Rental rates continue to decline for all types of commercial property, except flex space (space that can be used for either office or industrial purposes).

* through November
Source: Newmark Knight Frank
Available commercial space declined for a second year in a row and rental rates continued to fall.

Overall vacancy rate 14%,

5.45 times the rate in 2000
**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.

Passage rates for local revenue-generating measures, such as bonds, indicate the community’s sense of shared responsibility, its awareness of the fiscal situation facing cities and schools, and its confidence in the performance of government institutions.

**How Are We Doing?**

Silicon Valley voter registration and turnout continues to outpace California, though the margin is closing in voter registration. Regional voter turnout for the November 2005 special election was lower than turnout for the 2003 special election, but still higher than the state average.

Between 1998 and 2005, revenue raised by Silicon Valley bond measures increased by one-fifth when adjusted for inflation, from $8.2 million to $1.6 billion, and the rate of passage increased by thirty percent. Most bonds proposed additional revenues for local schools. Since the 2000 passage of Proposition 39—which reduced the approval rate for local school bonds from two-thirds of the local electorate to fifty-five percent—our local bonds are more likely to pass.

---

**Voter Participation**

<table>
<thead>
<tr>
<th>Year</th>
<th>Share of Eligible Who Registered</th>
<th>Share of Eligible Who Voted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>1979</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>1993</td>
<td>30%</td>
<td>0%</td>
</tr>
<tr>
<td>2003</td>
<td>40%</td>
<td>0%</td>
</tr>
<tr>
<td>2005</td>
<td>50%</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Source: California Secretary of State*

**Voter turnout**

**fell 15%** for 2005 special election compared to turnout for the special election in 2003.
Voter registration and turnout was higher than California and the majority of local bond issues were approved by the voters.

Between 1998 and 2005, bonds had a rate of passage of 81% compared to 65% for taxes.

The passage rate for school related measures during the same time period was 70% and $4.4 billion was raised through bonds to improve local schools.

74% of bond measures presented in local elections between 1998 and 2005 were aimed to improve revenue for schools.
GOVERNANCE

**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. Property tax revenue is the most stable source of funding for local government, but represents less than a quarter of total revenue for cities and counties. While counties receive most of their funding from State and Federal sources, cities are more dependent upon volatile revenue from fees as well as sales, hotel occupancy, and other taxes.

**How Are We Doing?**

City revenues fell for the second year, while county revenues rose for the eighth consecutive year. Silicon Valley city revenue averaged a little more than three percent annual growth between FY 1993 and FY 2003, with an increasing share of revenue coming from non-tax revenue sources. Revenue for Santa Clara and San Mateo Counties also grew by a little more than three percent from FY 1997 through FY 2003.

Property tax levies for Santa Clara and San Mateo Counties continue to climb. In 2000 revenues from property taxes surpassed pre-Proposition 13 levels for the first time since that legislation was enacted in 1978. By contrast, in 1987 (ten years after Proposition 13 passed), property tax revenues were down thirty-five percent from ten years prior. Total property tax revenues for California still remain below pre-Proposition 13 levels.

**Total property taxes** collected in Silicon Valley have risen 16% above 1977 levels—the year before Proposition 13, legislation that limited the rate of increase of property taxes, was enacted.
City revenues declined for the second year while county revenue increased.

Total City Revenues fell 25% from FY 2001 to FY 2003

3.2% Average Annual Growth FY 1993 - FY 2003

Total County revenues grew 6% from FY 2002 to FY 2003, continuing an 8-year upward trend.
The region’s economic restructuring has clearly triggered an occupational restructuring as well, producing both large gains and losses.

Of 432 total occupations represented in the region, 55% lost jobs, but 42% actually added jobs and 3% experienced no change between 2000 and 2004.

The region’s count of top-level engineering, scientific and business management talent has actually grown since 2000—increasing from 67,420 to 68,940 between 2000 and 2004. But jobs in key support occupations fell from 41,230 to 22,260 during this same period.

As Figure 3 shows, employment changes were not uniform across occupations. There have been both large gains and losses in individual engineering, scientific, and business management occupations. (Note: occupational data is only available in aggregate by county, so we present Santa Clara here as a representative county).

**FIGURE 3:** Largest Gains and Losses in Santa Clara County: Engineering, Scientific, and Business Management Occupations 2000-2004

<table>
<thead>
<tr>
<th>Major Core Occupations</th>
<th>Gain/Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer hardware engineers</td>
<td>5,260</td>
</tr>
<tr>
<td>Engineers, all other</td>
<td>3,850</td>
</tr>
<tr>
<td>Civil engineers</td>
<td>1,980</td>
</tr>
<tr>
<td>Electronics engineers, except computer</td>
<td>1,680</td>
</tr>
<tr>
<td>Management analysts</td>
<td>1,130</td>
</tr>
<tr>
<td>Market research analysts</td>
<td>1,070</td>
</tr>
<tr>
<td>Computer and information scientists, research</td>
<td>780</td>
</tr>
<tr>
<td>Materials engineers</td>
<td>390</td>
</tr>
<tr>
<td>Biochemists and biophysicists</td>
<td>(330)</td>
</tr>
<tr>
<td>Industrial engineers</td>
<td>(550)</td>
</tr>
<tr>
<td>Chief executives</td>
<td>(780)</td>
</tr>
<tr>
<td>Mechanical engineers</td>
<td>(2,390)</td>
</tr>
<tr>
<td>Electrical engineers</td>
<td>(3,300)</td>
</tr>
<tr>
<td>Computer software engineers, systems software</td>
<td>(7,550)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key Support Occupations</th>
<th>Gain/Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical engineering technicians</td>
<td>1,200</td>
</tr>
<tr>
<td>Logisticians</td>
<td>1,150</td>
</tr>
<tr>
<td>Civil engineering technicians</td>
<td>620</td>
</tr>
<tr>
<td>Electro-mechanical technicians</td>
<td>(630)</td>
</tr>
<tr>
<td>Industrial engineering technicians</td>
<td>(740)</td>
</tr>
<tr>
<td>Electrical and electronics drafters</td>
<td>(1,250)</td>
</tr>
<tr>
<td>Computer systems analysts</td>
<td>(3,510)</td>
</tr>
<tr>
<td>Semiconductor processors</td>
<td>(5,640)</td>
</tr>
<tr>
<td>Computer programmers</td>
<td>(10,110)</td>
</tr>
</tbody>
</table>
During this restructuring, the region’s workforce has remained one of the most productive in the world. In fact, the region has substantially increased its productivity advantage over the United States as a whole, outpacing the national average by 31% in 2004, up from 22% in 1994. Silicon Valley’s talent base may be restructuring, but it remains a major advantage for the region in the global economy.

Equally striking, a majority of the region’s workforce are in jobs that require creativity. Silicon Valley’s “creative edge” is not limited to artists or the top tier of professionals; it includes people at all levels generating new ideas and methods, utilizing engineering, scientific, design or other expertise. As Figure 4 shows, 62% of all Silicon Valley workers (and 70% of technology workers) report that their jobs require “a fair amount” or “a lot” of creativity.

Figure 4: How Much Creativity Does Your Job Require In Order to Do Your Work Well? (Those Who Are Employed), Santa Clara County, 2005

A majority of the region’s workforce are also in mid-wage occupations. As Figure 5 shows, despite substantial restructuring, the region’s employment base continues to have a majority of jobs in mid-wage occupations—between high-wage research and professional service jobs and low-wage personal services jobs. Many of these mid-wage occupations include “jobs of place,” such as health care, education, and other occupations requiring face-to-face interaction. These jobs are less susceptible to offshoring. On this basis, it would appear that Silicon Valley’s creative edge is more inclusive than exclusive: a majority of the workforce is both in mid-wage occupations and in jobs that require creativity.

Figure 5: Silicon Valley Workforce Distribution by Median Wage, Divided by Quartiles, 2004
Silicon Valley’s Growing Idea Economy

Silicon Valley seems to be solidifying its position as an “idea economy” in order to compete in the global economy (see Figure 6).

Figure 6
Ideas Drive Economic Growth

<table>
<thead>
<tr>
<th></th>
<th>Industrial Economy</th>
<th>Idea Economy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Materials</td>
<td>Natural Resources, Labor, Capital</td>
<td>Ideas</td>
</tr>
<tr>
<td>Customer Focus</td>
<td>Mass Production</td>
<td>Mass customization based on information technology and product design</td>
</tr>
<tr>
<td>Organization</td>
<td>Large Corporations, Economies of Scale</td>
<td>Entrepreneurs, Small Scale, Free Agents, Networks</td>
</tr>
<tr>
<td>Success Factors</td>
<td>Labor, Quantity, Low Cost, Stability, Control</td>
<td>Talent, Speed, Innovation, Flexibility, Customization</td>
</tr>
</tbody>
</table>

Like other regions, Silicon Valley must find a role to play in a global economy that has become a series of “value chains” connecting product design, flexible production, marketing, and logistics functions. This is a complex process involving many partners across numerous locations throughout the world.

Today, the region’s firms increasingly rely on their Silicon Valley workforce to make specific, high-end contributions to these global value chains—focusing on tasks such as “creative” product design, innovation services, business management, and the like. At the same time, many companies have outsourced and “offshored” other functions to lower-cost locations in order to remain globally competitive enterprises.

As products increasingly become commodities and production becomes routine, the competitive advantage of high-cost regions depends on the ability to add value in new and creative ways. Silicon Valley’s competitive edge is its ability to create new ideas, methods, product designs, services and businesses based on its engineering, science, and management expertise.

Engineering + Design

The business culture of Silicon Valley has traditionally focused on engineering, and on making products to sell to other firms. Today, we see more focus on consumers with an emphasis on design and customer experience, in addition to technical features. This shift requires building creative teams with diverse disciplinary backgrounds, and valuing “right brain” or creative skills in areas like marketing, branding, design, and customer service.
There is no fixed limit on how many residents can participate in Silicon Valley’s idea economy. As the global economy grows, not only will China, India and other developing countries be able to do things once exclusive to Silicon Valley, but they will also demand more products and services. This means they will be large and growing markets for Silicon Valley’s idea economy, bringing prosperity to our region and creating jobs for our residents. Creativity is already important in the jobs of a majority of Silicon Valley workers—both in cluster and non-cluster industries. However, residents risk being left behind if they do not have the education, knowledge and skills necessary to Silicon Valley’s creative edge in the global economy.

As Daniel Pink has observed in his new book¹, the “conceptual age” requires more “right brain” thinking, which is the creative side of our brain (in contrast to “left brain” thinking, which is the more analytical side of our brain). In the past, the industrial economy did not particularly value “creative thinking” as a key skill. With the shift to more knowledge work, creative thinking became recognized as legitimate, but still secondary to analytical thinking:

> Now, as North America, Western Europe and Japan evolve once again, (right-brain or creative thinking) is beginning to achieve economic and social parity—and, in many cases, primacy. In the twenty-first century, it has become first among equals, the key to professional achievement and personal satisfaction. (Left brain or analytical thinking) remains indispensable. It’s just no longer sufficient. In the Conceptual Age, what we need instead is a whole new mind.

To succeed as an idea economy and extend its benefits to more residents, Silicon Valley will need to focus on:

• how well our leaders understand the region’s growing role as a center for creativity in business and technology in the changing global economy;

• how well our educational system prepares children and adults to bring a creative “whole mind” dimension to their careers in Silicon Valley;

• how well our companies encourage and develop creativity in their employees;

• how well our communities expand opportunities and places for creative interaction and expression;

• how well our culture values creativity and the arts not only to enrich the quality of life of Silicon Valley, but to help spark new ideas and innovations in the region’s economy;

• how well our residents recognize that creativity is an economic imperative and attainable goal for everyone, not an exclusive skill set for just a few.

¹ Daniel H. Pink, A Whole New Mind: Moving from the Information Age to the Conceptual Age (The Penguin Group, 2005)
People

Population
Data for the composite population table are from the California Department of Finance, 1998-2003 and aggregate Santa Clara and San Mateo Counties. Natural change is births minus deaths and net migration is the sum of domestic and international in- and out-migration.

Demographic data (on ethnicity and race, educational attainment and age) are derived from the Current Population Survey, March Supplement. The CPS sample was determined to be generally representative of Santa Clara County by comparing variables of income, age, gender and race/ethnicity to data reported in the 2000 Census. Because of the small sample size, figures from any given year may be unstable. To stabilize the data and account for sampling error, we create a rolling average of three years (e.g. the 2004 data point is the average of data for 2003, 2004, and 2005). Data are more useful for tracking long-term trends than for noting specific year-to-year movements.

In Census data, ethnicity and race are self-designated categories. All respondents who self-reported “Hispanic” origin are counted as such in that category only. Respondents who self-identified as more than one race were not counted in the data set; this group represents less than 2% of the population.

Foreign Immigration
Statistics on share of engineers and scientists that are foreign born come from Saxenian and Shin “Immigration and the Transformation of the Silicon Valley Economy: 1970-2000”

Immigration data was obtained from the U.S. Department of Homeland Security, Office of Immigration Statistics. County and California population statistics came from the California Department of Finance; all annual population statistics are as July 1 of the respective year.

Science and Engineering Education
Data are from the National Center for Education Statistics. Regional data includes the following post secondary institutions: Menlo College, Cogswell Polytchnical 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 race/ethnicity, citizenship, gender and level of degree (bachelors, masters or doctorate). Degrees per capita were calculated using Bay Area population figures from the California Department of Finance.

Economy

Value Added
Value added is the sum of compensation paid to labor within a sector and profits accrued by firms. Value added estimates are constructed using productivity estimates at higher geographic levels (state and national) and applying them to employment and wage/income data at the metropolitan level. Note: Value added in the 2006 Index reflects retroactive federal changes in metropolitan employment estimates. Value added for temporary employees is shared between personnel supply companies and the companies that utilize the labor services of contracted employees.

Patents per Capita
Patent data are provided by the U.S. Patent and Trademark Office and consist of utility patents granted by inventor. Utility patents are the most common patents, covering many types of inventions. Utility patents describe and claim the composition of an invention—how it works, or what the process is. Population figures are from Economy.com. Geographic designation is given by the location of the first inventor named on the patent application.

Venture Capital
Data are provided by PricewaterhouseCoopers/Thomson Venture Economics/National Venture Capital Association MoneyTree(tm) Survey. For the Index of Silicon Valley, only investments in firms located in Silicon Valley, based on Joint Venture’s ZIP-code-defined region, were included. Total 2005 venture capital funding level is an estimate based on the first three quarters of data and historical growth patterns in the fourth quarter. Values are inflation-adjusted and reported in 2004 dollars, using the CPI for the San Francisco-Oakland-San Jose CMSA from the Bureau of Labor Statistics.

Gazelles
The data set for this indicator was provided by Standard & Poor’s. Gazelles are companies with annual compound revenue of 20% or more for four consecutive years, beginning with revenues of $1 million. This indicator uses annual average revenue reported for publicly traded companies in Silicon Valley.

Industry Cluster Concentration and Compensation
The California Employment Development Department (EDD) and Joint Venture: Silicon Valley Network have constructed a unique data set to track employment and pay in the Silicon Valley region on the basis of unemployment insurance filings. This data set begins in 1992 and is updated quarterly. This data set does not include self-employment, agriculture workers or military personnel. Job data include both part-time and full-time employees, or all people on the payroll. Joint Venture’s Silicon Valley data set provides the most up-to-date employment estimates for the entire region through the second quarter of 2005.

Corresponding national-level employment data are provided by the U.S. Bureau of Labor Statistics, Quarterly Covered Employment and Wages (QCEW) series.
**Silicon Valley Jobs by Industry Cluster and Other Industries**

Silicon Valley employment data are provided by the California Employment Development Department and are from Joint Venture: Silicon Valley Network’s unique data set. See appendix B for cluster definitions.

**Silicon Valley Employment**

Data are civilian employment figures from 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.

**Real Per Capita Income**

Data are from Economy.com. Data for Santa Clara and San Mateo counties are inflation adjusted by Economy.com to 2004 dollars.

**Distribution of Income**

Data are from the March Supplement of the Census Bureau’s CPS—see population for further explanation. All Santa Clara County incomes are adjusted for inflation using the San Francisco-Oakland-San Jose CPI, while national and California incomes are adjusted for the US City average CPI.

Household income includes both earned and unearned income for all persons living in the same household. Household income is adjusted for household size by doubling household income and dividing it by the square root of the number of household residents. For an in-depth analysis of income distribution of California, see The Distribution of Income in California (Reed, Haber; Mameesh, 1996) published by the Public Policy Institute of California (PPIC). Joint Venture followed this methodology to generate this indicator: Deborah Reed of the PPIC provided national and California household income statistics.

**Bankruptcy**

Data are from the U.S. Judiciary, including chapter 7, 11, and 13 filings (http://pacer.psc.uscourts.gov/). Population figures are from the California Department of Finance, Demographic Research Unit.

**Average Pay Per Employee, by Industry Clusters and Other Industries**

Average pay per employee for each cluster was derived from the EDD/Joint Venture: Silicon Valley Network data set and are based on the QCEW. Appendix B provides NAICS-based definitions for each of Silicon Valley’s industry clusters. Average pay per employee in the clusters is calculated by summing quarterly payroll and dividing by average annual employment in the cluster in 2004. All wages have been adjusted into 2004 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.

Pay includes bonuses, stock options, the cash value of meals and lodging, and tips and other gratuities. Pay per employee is calculated by dividing annual (quarter two to quarter two) payroll for each industry by annual average employment (quarter two to quarter two).

**Society**

**Workforce Training**

Eight Community Colleges in the Silicon Valley region provided data on the number of spaces in their nursing programs, and the number of applicants for those programs, for this indicator: Cabrillo College, Canada College, Chabot College, De Anza College, Evergreen College, Ohlone College, College of San Mateo and Mission College.

**High School Graduation**

Data for the 2004-05 school year were provided by Silicon Valley school districts and were compiled by Collaborative Economics. Figures for the most recent year are preliminary and will not be finalized until February of the following year.

A new methodology, the Cumulative Promotion Index (CPI), was employed this year to more accurately measure the drop-out rate (it does not include degree equivalent attainment, like the GED). This methodology was developed by the Education Policy Center of the Urban Institute. Essentially it calculates an approximate probability that a student will graduate on-time by looking at enrollment figures from one year to the next for grades 9 through 12 and then number of graduates in 12th grade.

**Intermediate Algebra Enrollment**

Data are from the California Department of Education for public schools in Silicon Valley. Figures represent the share of 10th and 11th grade students enrolled in Intermediate Algebra.

**3rd Grade Reading Ability**

Data are from the California Department of Education, CAT/6 Research Files and are compiled specifically for the Silicon Valley region. In 2003, the California Achievement Test CAT/6 replaced the Stanford Achievement Test, ninth 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. English learners are students reporting a primary language other than English on the state-approved "Home Language Survey." They also do not meet the English language skills on the state-approved oral language assessment procedure (listening, comprehension, speaking, reading and writing) needed to succeed in the schools’ regular instruction program.

**Kindergarten Readiness**

Applied Survey Research conducted kindergarten readiness studies for San Mateo and Santa Clara Counties. The two county organizations in charge of this study are: The Santa Clara County Partnership for School Readiness and the Peninsula Partnerships for Children, Youth and Families. Thanks to the many sponsors of these efforts for sharing their findings.

Scores for All Children are based on a representative samples of kindergarten children from San Mateo and Santa Clara counties. Scores for Children with Preschool Experience and Children w/out Preschool Experience have been adjusted for a number of factors, including English Language Learner status, special needs status, gender, maternal education level, English as the primary household language, household income, frequency of parental reading to children, children’s ages, school API levels, and the number of days between the start of school and the observation date.
Arts & Culture
Data are from the results of a random telephone survey of 1,010 adult residents in Santa Clara County conducted by the Survey and Policy Research Institute (SPRI) in 2005 for Cultural Initiatives Silicon Valley. The results of this survey were reported in the 2005 Creative Community Index: Measuring Progress Toward a Vibrant Silicon Valley. Figures on arts program participation by Silicon Valley Schools were provided by Cultural Initiatives Silicon Valley.

Immunization of Children
Data on child immunizations are from the Centers for Disease Control. Children immunized with the 4:3:1 series immunizations between the ages of 19 and 35 months are included in the results. http://www.cdc.gov/nis/

Overweight Youth
The indicator measures the share of students who did not meet 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, and results are compiled by the California Department of Education. The test used for physical fitness testing is the FITNESSGRAM®, http://data1.cde.ca.gov/dataquest/

Health Insurance
All data on insurance coverage are drawn from the 2003 California Health Interview Survey, located at www.chis.ucla.edu. 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.

Child Abuse
Data are from the Child Welfare Services 2004 Quarter 4 Extract, downloaded from the Center for Social Services Research at the University of California at Berkeley. Population data comes from the California Department of Finance.

Adult & Juvenile Violent Offenses
Violent crime data are from the FBI’s Uniform Crime Reports, as reported by the California Department of Justice in their annual “Criminal Justice Profiles” (http://caag.state.ca.us/cjc/pubs.htm). Violent offenses include homicide, forcible rape, assault and kidnapping. Population data comes from the California Department of Finance.

Place

Protected Open Space
Data are from GreenInfo Network’s Bay Area Protected Lands Database, and are for Santa Clara, San Mateo and Santa Cruz counties and for all of Alameda County excluding the cities of Alameda, Albany, Berkeley, Emeryville, Oakland and Piedmont. Santa Cruz data was last updated in 2001. Data include lands, owned by public agencies and non-profit organizations, that are protected primarily for open space uses. Parks and other open space holdings less than 5 acres are generally not included in this dataset.

Vehicle Fleet
Statistics are from the California Energy Commission, compiled using vehicle registration data from the California Department of Motor Vehicles. Alternative fuel-types include: biodiesel, electricity, ethanol, natural gas to diesel fuel convertible vehicles, hydrogen, liquefied petroleum gas, natural gas.

Water Quality
Data for this indicator were provided by the San Francisco Estuary Institute’s Regional Monitoring Program (RMP). The RMP analyzes Bay water and sediment as well as bird and fish tissue for contaminant concentrations. www.sfei.org

Residential Density
Land-use data for cities in Silicon Valley were provided by city planning and housing departments as well as city managers. Data were compiled and analyzed by Joint Venture and Collaborative Economics. Participating cities include: Belmont, Campbell, Cupertino, Foster City, Fremont, Gilroy, Hillsborough, Los Altos, Lost Altos Hills, Milpitas, Monte Sereno, Morgan Hill, Mountain View, Newark, Palo Alto, Redwood City, San Carlos, San Jose, San Mateo, Santa Clara, Scotts Valley, Sunnyvale, and Union City. Unincorporated Santa Clara County and San Mateo County are also included. Data are for fiscal year 2005 (July ’04-June ’05).

Average units per acre for existing residential development was calculated by dividing the total housing units by the total acres of residential development.

Development Near Transit
Joint Venture conducted a land-use survey of all cities within Silicon Valley. Collaborative Economics completed survey compilation and analysis. See previous indicator. 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 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).

Transit Use and Availability
Data are the sum of annual ridership on the light rail and bus systems in Santa Clara and San Mateo counties and rides on Caltrain. Data are provided by Sam Trans, Valley Transportation Authority, Altamont Commuter Express and Caltrain. Population estimates were obtained from economy.com. Monthly estimates were made for July through December 2005 using a rolling average of the past three years from the January-June share of ridership. Revenue hours are the amount of time that a bus or train is in service.
Building Affordable Housing
Joint Venture conducted a land-use survey of all cities within Silicon Valley. Collaborative Economics completed survey compilation and analysis. Affordable units are those units that are affordable for a four-person family earning up to 80% of the median income for a county. Cities use the U.S. Department of Housing and Urban Development’s (HUD) estimates of median income to calculate the number of units affordable to low-income households in their jurisdiction.

Rental Affordability
Apartment data are from RealFacts survey of all apartment complexes in Santa Clara County of 40 or more units. Rates are the prices charged to new residents when apartments turn over and are adjusted for inflation.

Home Affordability
Data on housing affordability are from the California Association of Realtors (CAR). They are 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/NPDC. The 2005 estimate is based on August figures.

Commercial Space
Newmark Knight Frank calculates the vacancy rate, rate of absorption, and rental rates for Santa Clara County. Vacancy rate measures the total vacancy rate, calculated by dividing the sum of the direct vacant and sublease vacant space by the building base. Net Absorption measures the net change in occupied space from one period to the next.

Lease rate data for industrial, warehouse and flex are provided “triple net” (NNN), which is a base lease rate that excludes the costs of utilities, janitorials, taxes, maintenance and insurance. Office rates are provided as “full service”.

Governance
Voter Participation
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.

Support for Alternative Funding
Bond measures data are from SmartVoter.org, a non-partisan website from the League of Women Voters of California, Santa Clara County Office of the Registrar of Voters, and San Mateo County Registration and Elections Division. Bond measure data is for measures presented in Santa Clara County and San Mateo County local elections that propose to raise revenue for local government entities including cities, counties, and school districts.

Property Tax Revenues
Data on California property tax levies and the share allocated to Santa Clara and San Mateo counties is provided by the California State Board of Equalization. Other recipients of property tax levies are cities, schools and special districts.

City Revenue
Data for city revenue are from the State of California Cities Annual Report, Fiscal Years 1989-90 to 2002-2003. 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 lodging taxes, business license fees, other non-property taxes and intergovernmental transfers.

County Revenue
County revenue data is from Santa Clara and San Mateo counties. The “other revenue” includes revenue from use of money and other financing sources, licenses, permits and franchises, fines, forfeitures and penalties; and charges for services. The “taxes other than current property” include sales tax, aircraft tax and other taxes as applicable. The “property taxes” include revenue from both the secured and the unsecured tax roll. The “aid from government agencies” includes revenue from state, federal and other government agencies.

Special Analysis
Core design, engineering, scientific and business management talent definitions were constructed using Standard Occupational Classification (SOC) codes. The group designated as “Creative Occupations” is primarily made up of designers (e.g. industrial and graphic designers), computer scientists (e.g. computer software engineers, electrical engineers), physical scientists (e.g. industrial engineers, materials engineers), life scientists (e.g. biochemists, microbiologists), social scientists (e.g. anthropologists, market research analysts), business strategists (e.g. chief executives, management analysts), visual artists (e.g. multi-media artists, public relations specialists), and writers.
**APPENDIX B: Definitions**

**Industry Clusters**

**Computer and Communications Hardware Manufacturing**
331110* Electronic Computer Manufacturing
331112 Computer Peripheral Equipment Manufacturing
331119 Other Computer Manufacturing
331210 Telephone Apparatus Manufacturing
331220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing
331290 Other Communications Equipment Manufacturing
332110 Search, Detection, Navigation, Guidance, Aeronautical and Nautical System and Instrument Manufacturing
334613 Magnetic and Optical Recording Media Manufacturing

**Semiconductor and Semiconductor Equipment Manufacturing**
333295 Semiconductor Machinery Manufacturing
333314 Optical Instruments and Lens Manufacturing
333413 Semiconductor and Related Device Manufacturing
333511 Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables
333515 Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals
333519 Other Measuring and Controlling Device Manufacturing

**Electronic Component Manufacturing**
334411 Electron Tube Manufacturing
334412 Bare Printed Circuit Board Manufacturing
334415 Electronic Resistor Manufacturing
334416 Electronic Coil, Transformer and Other Inductor Manufacturing
334417 Electronic Connector Manufacturing
334418 Printed Circuit Assembly (Electronic Assembly) Manufacturing
534419 Other Electronic Component Manufacturing
3359 Other Electrical Equipment and Component Manufacturing

**Software**
334611 Software Reproducing
334612 Software Publishers
334618 Internet Service Providers, Websearch Portals and Data Processing Services
541511 Custom Computer Programming Services
541512 Computer Systems Design Services
541519 Other Computer-Related Services

**Biomedical**
325411 Medicinal and Botanical Manufacturing
325412 Pharmaceutical Preparation Manufacturing
325413 In-Vitro Diagnostic Substance Manufacturing
325414 Biological Product (except Diagnostic) Manufacturing
334510 Electromedical and Electrotherapeutic Apparatus Manufacturing
334516 Analytical Laboratory Instrument Manufacturing
334517 Irradiation Apparatus Manufacturing
339111 Laboratory Apparatus and Furniture Manufacturing
339112 Surgical and Medical Instrument Manufacturing
339113 Surgical Appliance and Supplies Manufacturing
339114 Dental Equipment and Supplies Manufacturing
541710 Research and Development in the Physical, Engineering, and Life Sciences (50%) and Health Professions
62151 Medical and Diagnostic Laboratories

**Creative + Innovation Services**
523910 Miscellaneous Intermediation
5411 Legal Services
5412 Accounting, Tax Preparation, Bookkeeping and Payroll Services
541310 Architectural Services
541320 Landscape Architecture Services
541330 Engineering Services
541340 Drafting Services
541370 Surveying and Mapping (except Geophysical)
541380 Testing Laboratories
541410 Interior Design Services
541420 Industrial Design Services
541430 Graphic Design Services
541490 Other Specialized Design Services
541611 Administrative Management and General Management Consulting Services
541612 Human Resources and Executive Search Consulting Services
541613 Marketing Consulting Services
541614 Process, Physical Distribution and Logistics Consulting Services
541620 Environmental Consulting Services
541690 Other Scientific and Technical Consulting Services
541710 Research and Development in the Physical, Engineering, and Life Sciences (50%)
5418 Advertising and Related Services
54191 Marketing Research and Public Opinion Polling
54192 Photographic Services
7111 Performing Arts Companies
711510 Independent Artists, Writers and Performers

**Corporate Offices**
551114 Corporate, Subsidiary and Regional Managing Offices

*The numbers correspond to North American Industry Classification System (NAICS) codes.*

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California State Board of Equalization
California State Controller
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Child Welfare Services
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City Planning and Housing Departments of Silicon Valley
Cultural Initiatives Silicon Valley
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National Center for Health Statistics
National Venture Capital Association
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Santa Clara County Partnership for School Readiness
Silicon Valley Community Colleges
Silicon Valley School Districts
Smartvoter.org
Standard & Poor’s
The David and Lucile Packard Foundation
The James Irvine Foundation
The William and Flora Hewlett Foundation
Thomson Venture Economics
U.S. Bureau of Labor Statistics
U.S. Census Bureau
U.S. Department of Homeland Security
U.S. Judiciary
U.S. Patent and Trademark Office
UCLA Center for Health Policy Research
United Way Silicon Valley
Valley Transportation Authority
Walls & Associates

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.