

SPECIAL ANALYSIS

*Where the Jobs Are:
Our Region's
Occupational
Structure*

JOINT VENTURE'S **2004**
index
of silicon valley

MEASURING PROGRESS
TOWARD THE GOALS OF
SILICON VALLEY 2010



Joint Venture: Silicon Valley Network

Joint Venture: Silicon Valley Network is a regional, nonpartisan voice and a civic catalyst for solutions to problems that impact all sectors of the community. Joint Venture brings together established and emerging leaders from business, labor, government, education, nonprofits and the broader community to build a sustainable region that competes globally. We work to promote economic prosperity and improve the quality of life in the region, making Silicon Valley a better place to live and work. Joint Venture welcomes your participation in its various activities, which are described in detail at www.jointventure.org.

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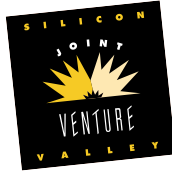
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About Joint Venture's 2004 *Index of Silicon Valley*

Dear Friends:

We may now be seeing the early signs of yet another Silicon Valley reinvention. In this year's *Index* we find that despite ongoing but slowing job loss, employment gains are taking place in some high-wage occupational clusters. Employment is growing in the Health Services industry and the Biomedical industry cluster is becoming more concentrated in Silicon Valley as its employment grows relative to the nation. Our region's productivity continues to grow. There are some benefits to our economic slowdown: our freeways are less congested and apartment rental rates are dropping. Our development patterns are producing less rather than more sprawl. The 2004 *Index of Silicon Valley* documents these and other significant changes, as well as the continuing challenges facing our region.

While working our way out of our recent downturn through economic restructuring, we must also keep working towards the *Silicon Valley 2010 Vision*. Developed five years ago by more than 2,000 community members, this document laid out four areas—Innovative Economy, Livable Environment, Inclusive Society, and Regional Stewardship—that remain important goals for Silicon Valley. Using a variety of regional indicators, the *Index* helps us understand where we are moving forward and where we are losing ground relative to this Vision. It also stimulates important dialogue about the meaning of key changes and trends. And, as always, the *Index* will continue to be a resource to people who want to work together to make Silicon Valley a better place.

We are pleased this year to present a special analysis that examines the unique and changing occupational structure of our Valley. The analysis describes how we compare to the nation and what makes Silicon Valley's occupational structure unique. It provides a picture of where jobs are today and raises important implications about how we prepare our workforce for the jobs of the future.

Just as last year's *Index of Silicon Valley* was the catalyst that brought together the region's leaders around the Next Silicon Valley Initiative, we hope you find this document a powerful tool in your efforts to move our region forward. We welcome your comments and participation in building the next Silicon Valley.

Russell Hancock
President and CEO
Joint Venture: Silicon Valley Network

Introduction

WHAT IS SILICON VALLEY?

Joint Venture defines Silicon Valley as Santa Clara County plus adjacent parts of San Mateo, Alameda and Santa Cruz counties (see map on page 4). This definition reflects the core location of the Valley's driving industries and most of its workforce. Silicon Valley's concentration of industry cluster employment is unique in the Bay Area. With a population of almost 2.4 million, this region has more residents than 17 U.S. states. The indicators reflect this definition of Silicon Valley, except where noted. As the region continues to grow, Joint Venture's initiatives will have an even wider geographic range, encompassing parts of San Benito County and the greater Bay Area.

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.

The indicators that follow were chosen in consultation with the *Index* Advisers and the Joint Venture Board. 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 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.

The driving clusters in Silicon Valley are:

- Computer and Communications Hardware Manufacturing
- Semiconductor and Semiconductor Equipment Manufacturing
- Electronic Component Manufacturing
- Biomedical, including biopharmaceuticals (15% of employment in this cluster), medical devices (50%), and research and development in the life sciences (35%)
- Software, including software publishers and software services
- Innovation Services, including technical services and business services (e.g., human resources, legal)
- Creative Services that integrate art, design and technology (e.g., graphic design, advertising, marketing)
- Corporate Offices, including headquarters, subsidiary and regional offices

In addition to tracking our driving industry clusters, the *Index* provides employment and wage data for the other major industries in Silicon Valley, such as local services and construction.

WHAT IS AN OCCUPATIONAL CLUSTER?

In this year's Special Analysis, the *Index* presents occupational cluster groupings. These occupational clusters are geographic concentrations of related occupations that share the same or similar training and skills but may cut across several industries. The occupational clusters in Silicon Valley are:

- Innovation R&D: e.g., electrical engineers and technicians
- Professional Services: e.g., operations managers, computer support specialists
- Headquarters: e.g., chief executives and executive assistants
- Administration: e.g., secretaries, loan officers
- Technical Production: e.g., production managers, electrical and electronic equipment assemblers
- Installation, Repair and Production: e.g., carpenters, automotive technicians
- Sales, Marketing and Distribution: e.g., sales engineers, sales agents
- Health and Human Services: e.g., registered nurses, pharmacists
- Personal Services: e.g., hairdressers, waiters and waitresses
- Education and Training: e.g., teachers and teaching assistants

Appendix B identifies specific subsectors constituting each industry and occupational cluster.

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2004 Index Highlights



THE SILICON VALLEY REGION

Total area—1,500 square miles

Total population—2.39 million

Total jobs—1.17 million

Ethnic composition—44% White, non-Hispanic; 26% Asian, non-Hispanic; 24% Hispanic; 3% Black, non-Hispanic; 2% two or more races; 1% American Indian, Alaskan Native, Native Hawaiian, or other Pacific Islander

Foreign born—39% of residents were born in a foreign country

Age distribution—0–9 years old, 14%; 10–19, 13%; 20–44, 39%; 45–64, 23%; 65 and older, 11%

Adult educational attainment—81% at least a high school graduate; 36% at least a bachelor's degree

The *2004 Index of Silicon Valley* tells the story of continuing economic restructuring as the Valley's future begins to take shape. Although the Valley continued to lose jobs in its traditional hardware and software sectors, the rate of regional job loss slowed. In several industries, the Valley lost a smaller percentage of jobs than the nation, especially in the biomedical area. The sector adding the most jobs was health services. Venture capital is shifting to medical devices and biotechnology companies. Also, there has been a surge in community-college certificates awarded, particularly in health fields. Value added per employee has continued to grow.

Average pay has declined, but more slowly, and has returned to pre-bubble, 1998 levels. Our income gap narrowed as high-income households lost more ground than low-income households.

Economic restructuring has lowered some costs in the Valley. Commercial rents have plummeted. Child care costs are down. Traffic congestion is much less than it was two years ago. Apartment rents are down. Housing affordability has improved, but not nearly enough: owning a home in Silicon Valley remains out of reach for many residents.

Cities have made major gains in addressing urban sprawl. The average density of new housing is much higher than existing housing stock. About half of new housing and jobs are located near public transit. Also, the amount of permanently protected open space continues to grow.

Education shows improvement, but regional disparities persist.

There have been some gains in regional health and safety, but some signs of concern as well. Violent crime is down substantially. A greater percentage of children are immunized and fewer are victims of reported child abuse. At the same time, the percentage of low-weight births is growing, as are juvenile felony arrests. South Bay water quality is affected by PCBs and mercury.

With regard to regional stewardship, voter registration is at a new high, but local governments operate in a volatile and unpredictable fiscal environment, making long-term planning and investment difficult.

AS THE ECONOMY CONTINUES RESTRUCTURING, SILICON VALLEY'S FUTURE BEGINS TO TAKE SHAPE

- Silicon Valley lost approximately 5% of its jobs between the second quarter of 2002 and the second quarter of 2003. The rate of job loss has slowed from the same period during 2001 to 2002, when Silicon Valley lost about 10% of its jobs.
- Led by Biomedical, five Silicon Valley industry clusters lost a smaller percentage of jobs than the nation during 2001 to 2002.

- The industry that added the most jobs in Silicon Valley between 2002 and 2003 was Health Services, which added 1,400 employees. The Corporate Offices cluster added nearly 400 jobs. All remaining clusters and other industries in the region lost jobs over the last year.
- Value added per employee increased 4.4% in the region during 2003.
- Venture capital investment declined for the third year in a row, but also shifted towards Medical Devices and Biotechnology and away from Networking and Equipment and IT Services.
- The number of certificates awarded by community colleges grew 50% since 1998, with those in the health field jumping 60% in just the last year.

WAGE DECLINE SLOWS, GAP NARROWS BETWEEN HIGHEST AND LOWEST INCOME HOUSEHOLDS

- Average annual pay declined again in inflation-adjusted terms, but by a smaller margin (1.5%) compared to the previous year's change (6%).
- Real per capita income decreased for the third year in a row since peaking in 2000, but at a slower rate. In inflation-adjusted terms, regional real per capita income declined by 15% from 2000 to 2003—but dropped only 1% in the last year.
- In 2002, inflation-adjusted incomes of households in the 20th percentile dropped by a smaller percentage (1%) than the median (5%) or 80th percentile (7%), narrowing the household income gap.

ECONOMIC RESTRUCTURING HAS LOWERED SOME COSTS IN THE VALLEY

- The cost of all kinds of commercial space has plummeted from its peak in 2000—ranging from R&D (-81%) to Industrial (-77%), Office (-62%) and Warehouse (-43%).
- The percentage of freeway miles receiving the worst congestion rating dropped from 55% in 2000 to 39% in 2002.
- Child care costs declined by 2% from 2001 to 2002; the vacancy rate for infant care centers and homes jumped from 11% in 2002 to 22% in 2003.
- Housing affordability has improved. Average apartment rental rates at turnover dropped 9% in the third quarter of 2003. At the same time, 26% of all households could afford the median-priced home sold in Santa Clara County, up slightly from 25% in 2002.
- Owning a home in Silicon Valley remains out of reach for many residents. The affordability rate of 26% is still far below the national average of 56%. Looking to the future, the number of new housing units approved in Silicon Valley fell by 12% between 2002 and 2003, with only 23% of those units considered “affordable” (i.e., for households at 80% of the region's median income).

CITIES MAKE MAJOR GAINS IN ADDRESSING SPRAWL

- Cities approved new residential development at an average density of 10.8 units per acre in 2003, well above that of existing housing stock (5.6). In fact, since 1998, the average density of newly approved residential development has risen from 6.6 to 10.8 units per acre, an increase of 64%.
- Between 1984 and 2002, Santa Clara County's population grew 22%, while total acres of urbanized land grew only 7%.
- About half of new housing and new jobs were located near public transit. Forty-six percent of all new housing units approved and space for 55% of new jobs in 2003 were located within one-quarter mile of a rail station or major bus corridor.
- Since 1998, the amount of permanently protected open space in the Valley has grown by 13% or approximately 56,500 acres.

EDUCATION SHOWS IMPROVEMENT, BUT REGIONAL DISPARITIES PERSIST

- High school graduation rates and the proportion of graduates meeting UC/CSU requirements are rising, but major disparities exist among schools in third-grade reading scores on the CAT/6 and in Intermediate Algebra enrollment.

SOME GAINS, SOME SIGNS OF CONCERN IN REGIONAL HEALTH AND SAFETY

- From 2001 to 2002, the violent crime rate in Santa Clara County dropped 23%, compared to a 2% increase in California during the same period.
- The percentage of children aged 18–35 months with timely immunizations in Santa Clara County climbed from 80% in 2001 to 85% in 2002. In addition, the rate of reported child abuse dropped by 8% in Santa Clara and 11% in San Mateo counties from 2001 to 2002, compared to a drop of just 2% in California during the same period.
- At the same time, the share of low-weight births in Santa Clara County rose from 6% in 2001 to 6.3% in 2002. Juvenile felony arrests rose 24% during the same period, compared to a drop of 15% in California from 2001 to 2002.
- Air and water quality are mixed, with ozone levels rising, particulates dropping, and PCBs and mercury affecting the water quality in the South Bay.

ONGOING REGIONAL STEWARDSHIP NEEDED

- Voter registration in Silicon Valley reached a new high in 2003 (73%), and is now higher than that of California as a whole (70%).
- Funding to arts organizations has declined 3.4% annually since its peak in 2000, with decreases in corporate funding partially offset by increases in government, foundation and individual funding.
- Much of local government revenue is increasingly volatile.

Special Analysis

Where the Jobs Are: Our Region's Occupational Structure

Since the inaugural *Index* in 1995, Joint Venture: Silicon Valley Network has tracked employment by industry cluster. Industry clusters are geographic concentrations of firms that are organized by what goods and services are produced.

This special section of the report looks at employment in a different way: based on what people do in their jobs.

- An occupational cluster is a geographic concentration of related occupations that share similar skills across several industries.

The Special Analysis of Silicon Valley's occupational structure addresses the following questions:

- How does our occupational structure compare to that of the nation?
- What is our current occupational mix?
- How do wages vary within our occupations?

Silicon Valley's changing role in the global economy has made this analysis of occupational structure especially important because it helps to identify what kinds of jobs are more likely to grow in our region in the future. Understanding Silicon Valley's occupational structure can help the region identify and grow the workforce skills that will drive our global comparative advantage.

SILICON VALLEY OCCUPATIONS ARE RELATED TO BUSINESS FUNCTIONS

Business functions such as research and development (R&D), production and sales and their related occupations are increasingly distributed globally, locating in regions that offer a combination of cost and skill advantages. (See Next Silicon Valley publications at www.jointventure.org/nsv.)

In order to examine the concentration of occupations in Silicon Valley relative to the U.S., Joint Venture identified ten occupational clusters using both quantitative and qualitative data, with input from *Index* Advisers.

- Four occupational clusters are highly concentrated in Silicon Valley. These occupational clusters help define Silicon Valley's regional comparative advantage within core global business functions: Innovation R&D; Professional Services; Headquarters; and Technical Production.
- Six occupational clusters are not as highly concentrated in Silicon Valley but are still an important part of the Silicon Valley economy: Administration; Installation, Repair and Production; Sales, Marketing and Distribution; Health and Human Services; Education and Training; and Personal Services.

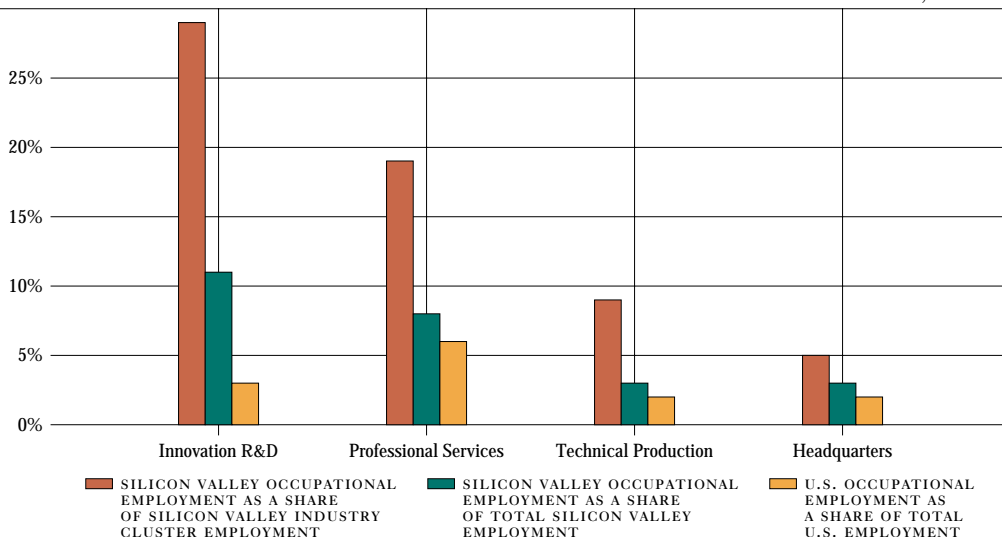
See page 2 and Appendix B for a more detailed description of these occupational clusters.

A KEY DIFFERENCE BETWEEN SILICON VALLEY'S OCCUPATIONAL STRUCTURE AND THAT OF THE U.S. IS OUR HIGH PROPORTION OF EMPLOYMENT IN VERY HIGH-SKILLED, HIGH-PAYING OCCUPATIONS

Employment in the high-wage occupational clusters in Silicon Valley is 25% of total Silicon Valley employment compared to 13% of total employment in the same occupational clusters nationally. The following chart compares employment in Silicon Valley's occupational clusters as a share of Silicon Valley industry clusters and as a share of Silicon Valley total employment. It also shows U.S. occupational employment as a share of total U.S. employment.

- Employment in Innovation R&D occupations is 29% of Silicon Valley's industry cluster employment. Professional Service occupations are 19%, Technical Production occupations are 9% and Headquarters occupations are 5% of Silicon Valley's industry cluster employment.
- In general, higher wages are associated with higher skills. Average wages in Silicon Valley's most concentrated occupational clusters—Innovation R&D, Professional Services and Headquarters—are more than \$80,000.

SILICON VALLEY OCCUPATIONAL CLUSTER EMPLOYMENT AS A SHARE OF SILICON VALLEY INDUSTRY CLUSTER EMPLOYMENT AND AS A SHARE OF TOTAL SILICON VALLEY EMPLOYMENT. U.S. OCCUPATIONAL CLUSTER EMPLOYMENT AS A SHARE OF TOTAL U.S. EMPLOYMENT, 2002.

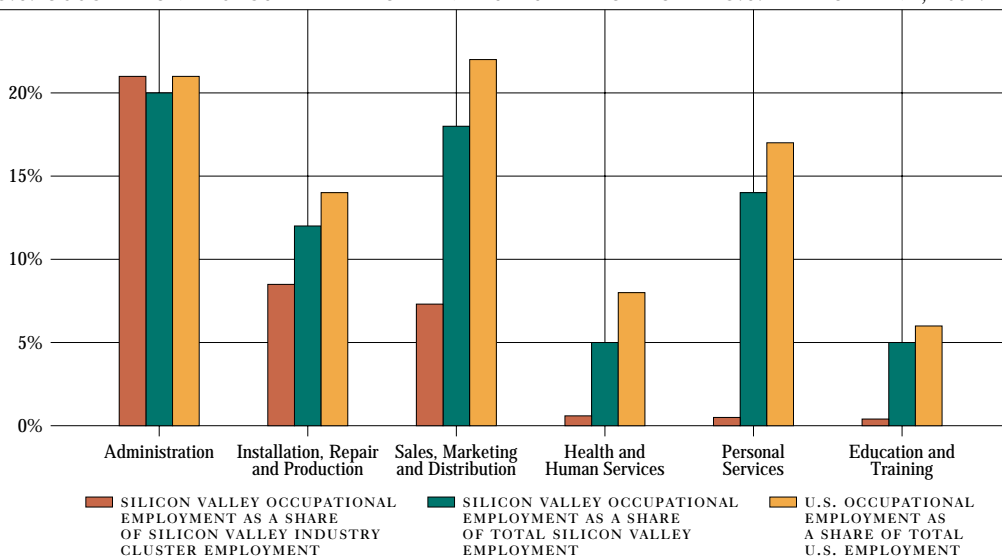


Sources: U.S. Bureau of Labor Statistics, California Employment Development Department

- Six Silicon Valley occupational clusters employ a smaller percentage of workers than the same clusters nationally. Five of these occupational clusters are mid-wage: Administration; Installation, Repair and Production; Sales, Marketing and Distribution; Health and Human Services; and Education and Training.

Overall, our regional occupational profile helps explain our high average wages compared to the nation and highlights our regional comparative advantage based on high skills in the global economy.

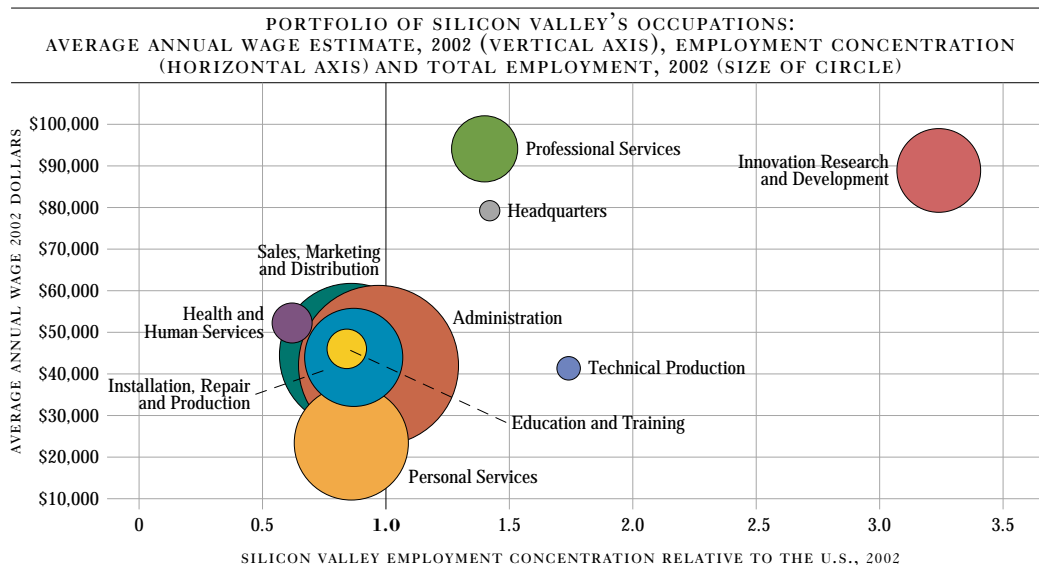
SILICON VALLEY OCCUPATIONAL CLUSTER EMPLOYMENT AS A SHARE OF SILICON VALLEY INDUSTRY CLUSTER EMPLOYMENT AND AS A SHARE OF TOTAL SILICON VALLEY EMPLOYMENT. U.S. OCCUPATIONAL CLUSTER EMPLOYMENT AS A SHARE OF TOTAL U.S. EMPLOYMENT, 2002.



Sources: U.S. Bureau of Labor Statistics, California Employment Development Department

HOWEVER, OUR REGION ALSO HAS A MAJORITY OF EMPLOYMENT IN MID-WAGE OCCUPATIONAL CLUSTERS

The following chart shows Silicon Valley’s occupational portfolio. An employment concentration greater than one means that Silicon Valley has a higher proportion of employment in that occupational cluster compared to the same occupational cluster nationally.



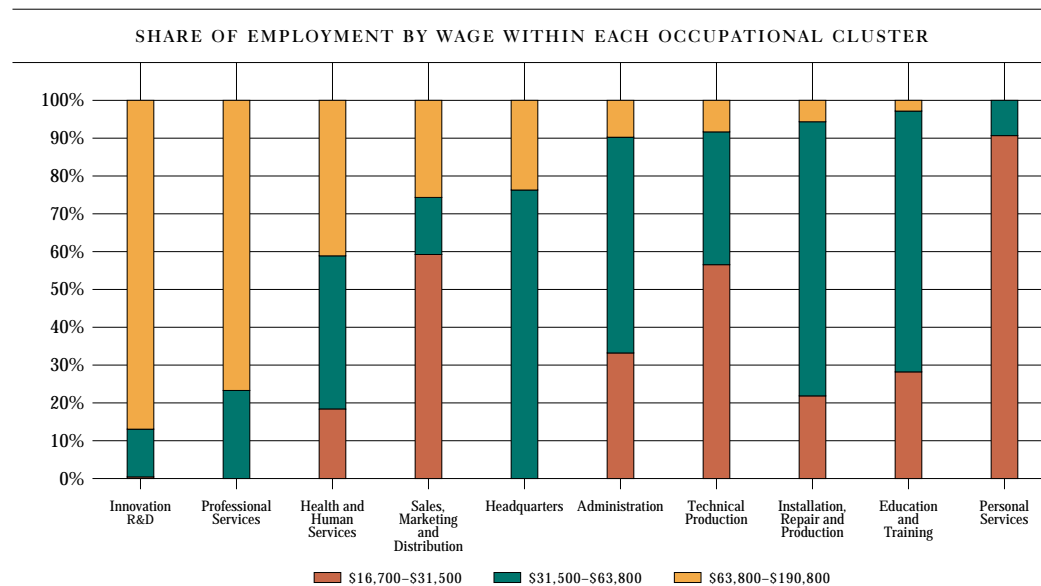
Sources: U.S. Bureau of Labor Statistics, California Employment Development Department

- Silicon Valley has high employment concentrations in the following high-paying occupational clusters: Innovation R&D (3.2), Professional Services (1.4) and Headquarters (1.4).
- Employment in the Technical Production occupational cluster is highly concentrated in Silicon Valley (1.7). Unlike the other highly-concentrated occupational clusters, Technical Production has a mid-range average wage of approximately \$41,000 per employee annually.
- Silicon Valley is also home to five occupational clusters that are not highly concentrated in the region but that offer average pay in the range of \$31,000 to \$63,800 annually: Administration; Installation, Repair and Production; Sales, Marketing and Distribution; Health and Human Services; and Education and Training. These mid-wage occupational clusters make up approximately 60% of all employment in Silicon Valley. The median pay for all occupations in the region is close to \$44,000.

This profile indicates that the region has an overall occupational mix that includes a range of wage levels. Our region is not a “two-tiered hourglass economy” based primarily on high-wage research and professional services and low-wage personal services. In between are a number of mid-wage occupations.

MOST OF THE REGION'S OCCUPATIONAL CLUSTERS INCLUDE A SUBSTANTIAL PERCENTAGE OF MID-WAGE JOBS

The following chart illustrates the distribution of employment by wage level across Silicon Valley's occupational clusters.



Sources: U.S. Bureau of Labor Statistics, California Employment Development Department

- Though Innovation R&D and Professional Services have the highest proportion of employment at the high-wage level, there is still considerable employment within them that falls within the mid-wage category. More than 23% of Professional Services jobs and 13% of Innovation R&D jobs had mid-level wages in 2002.
- Employment is more evenly distributed across the Health and Human Services clusters, where roughly 40% of jobs fell in the mid- and high-wage categories, or approximately 20,000 jobs in each category in 2002. About 18% of Health and Human Services jobs were low-wage.
- Employment in Sales, Marketing and Distribution is skewed towards the bottom with more than 58% of employment in occupations in the low-wage range. However, this category also has 25% of jobs in the high-wage category.
- Nearly 57% of employment in Technical Production was in the low-wage category while 35% was in the mid-wage category. Personal Services has the largest proportion of employment in the low-wage category, nearly 91%.

In summary, this wage profile suggests that there are a range of mid-wage as well as high-wage opportunities within several traditional occupational clusters in this region.

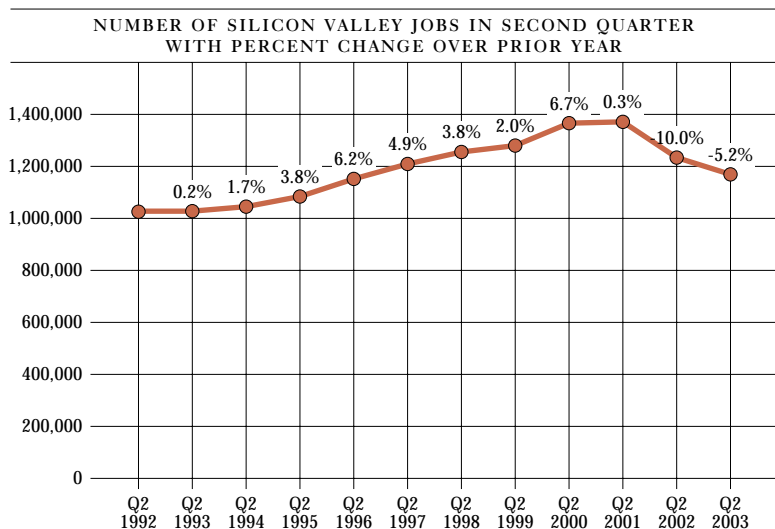
IMPLICATIONS

While Silicon Valley's occupational structure is highly concentrated in high-skilled, high-paying occupational clusters, we also have significant employment within occupational clusters with mid-level wages.

As our economy continues to restructure in response to global forces and new technologies, we need to:

- Better understand occupational changes and what they suggest for the jobs of the future.
- Prepare our workforce for all occupations and skills required to stay competitive in the global economy.
- Recognize the importance of career progression from low-level to mid-level to high-level occupations, and help our current workforce make the transition to those opportunities.

Rate of Regional Job Loss Slows



Source: California Employment Development Department

WHY IS THIS IMPORTANT?

Job gains or losses are a basic measure of economic health. This indicator reports total jobs on an annual basis and is derived from a unique set of employment data for the Silicon Valley region (see Appendix B for definition of the region).

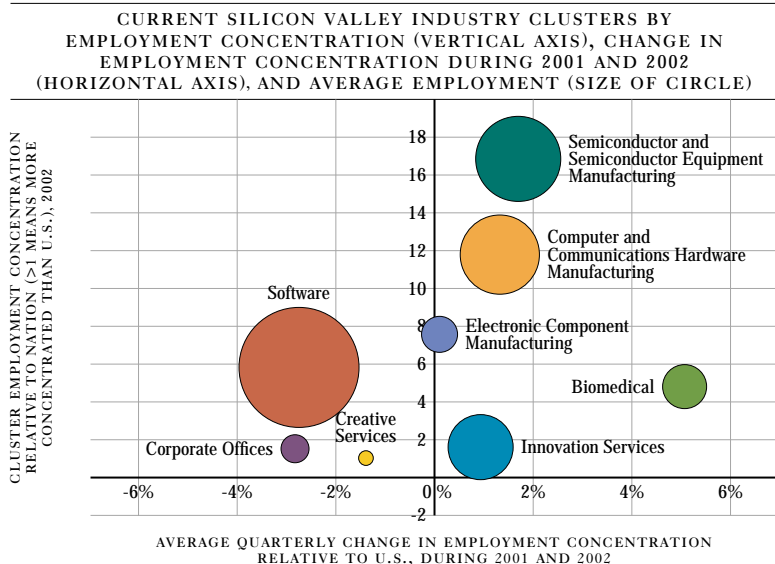
HOW ARE WE DOING?

Silicon Valley had 1.17 million jobs as of the second quarter of 2003. The region lost approximately 5%, or 64,500, of its jobs between the second quarter of 2002 and the second quarter of 2003. The rate of job loss has slowed from the previous period, when Silicon Valley lost 10% or 137,400 of its jobs (between the second quarter of 2001 and the second quarter of 2002). Silicon Valley has lost approximately 202,000 jobs from the peak of employment in the second quarter of 2001 to the second quarter of 2003.

From 1992 to 2000, the region added nearly 357,400 jobs. Subtracting job losses from 2000 to 2003, the net jobs gained since the beginning of 1992 (the first year of the regional data set) is approximately 153,000.

Employment data include both full-time and part-time employees, but do not include individuals who are self-employed.

Led by Biomedical, Five Silicon Valley Industry Clusters Grow in Employment Concentration Relative to the Nation



Source: Economy.com

WHY IS THIS IMPORTANT?

This chart provides an economic portfolio of Silicon Valley's industry clusters, showing the cluster's employment concentration relative to the nation, the cluster's average change in employment concentration on a quarterly basis during 2001 and 2002, and average annual cluster employment in 2002. Employment concentration is a calculation that compares the percentage of employment in a regional cluster to the percentage of employment in its national counterpart. All of these industry clusters have employment concentrations greater than their national counterparts—as much as 17 times higher in the case of Semiconductor and Semiconductor Equipment Manufacturing.

HOW ARE WE DOING?

Regional employment concentration relative to the nation increased in five and decreased in three industry clusters during 2001 and 2002. Average quarterly change in employment concentration was 5.1% for Biomedical, 1.7% for Semiconductor and Semiconductor Equipment Manufacturing, 1.3% for Computer and Communications Hardware Manufacturing, 1% for Innovation Services, 0.1% for Electronic Component Manufacturing, -2.8% for Corporate Offices, -2.7% for Software and -1.4% for Creative Services.

Five of the region's six largest clusters outperformed their national counterparts (the only exception being Software). Although the region lost jobs in all five clusters, the nation lost proportionately more jobs in each of these clusters during this period.

Jobs Lost Across Region's Clusters, Jobs Gained in Health Services

WHY IS THIS IMPORTANT?

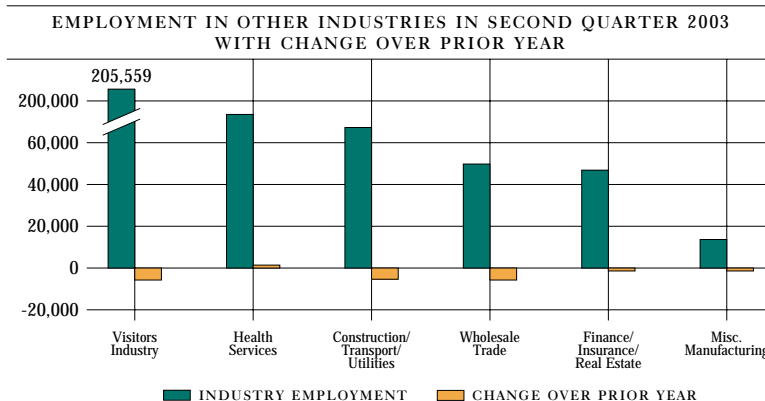
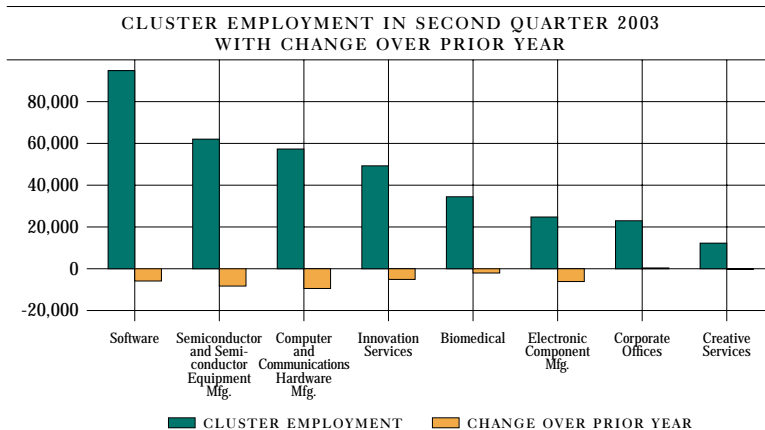
This indicator shows how employment in Silicon Valley's driving industry clusters and other major industries changed in the most recent annual period.

HOW ARE WE DOING?

Overall, Silicon Valley's driving industry clusters lost 9% of jobs in one year, declining from 394,600 jobs in the second quarter of 2002 to 357,900 jobs in the second quarter of 2003. Consistent with the slowing rate of overall regional job loss, the rate of cluster job loss is substantially lower than the 18% decline experienced from the second quarter of 2001 to the second quarter of 2002.

Every cluster lost employment during the latest period except for Corporate Offices, which added nearly 400 jobs. Computer and Communications Hardware Manufacturing lost the greatest number of jobs (9,400), declining from 66,700 in the second quarter of 2002 to 57,300 jobs in the second quarter of 2003. The second largest decline was in Semiconductor and Semiconductor Equipment Manufacturing, which lost 8,200 jobs. Electronic Component Manufacturing lost 6,200 jobs during the same period.

Beyond the region's clusters, the major source of regional job growth was Health Services, gaining 1,400 jobs and continuing its upward trend from the 2001 to 2002 period. However, all other major industries lost jobs between the second quarter of 2002 and the second quarter of 2003. Wholesale Trade and the Visitors Industry were the hardest hit, losing approximately 5,800 and 5,700 jobs, respectively.



Source: California Employment Development Department

Average Pay Returns to 1998 Level

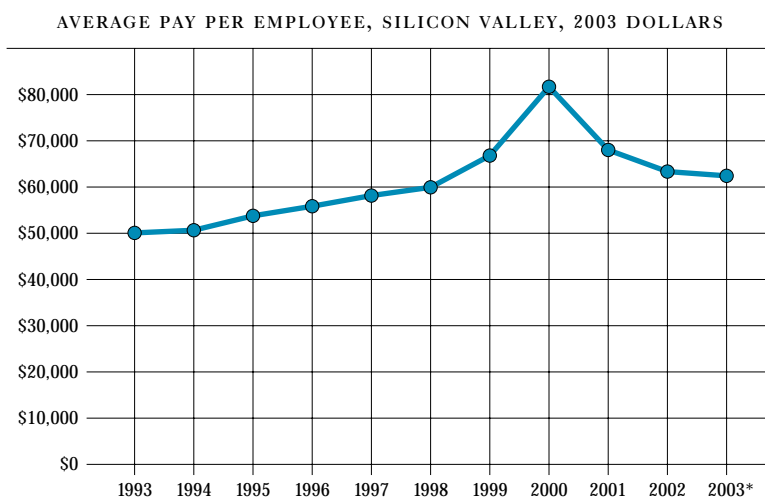
WHY IS THIS IMPORTANT?

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 is job growth. Average pay includes salary and wages, bonuses, and stock options.

HOW ARE WE DOING?

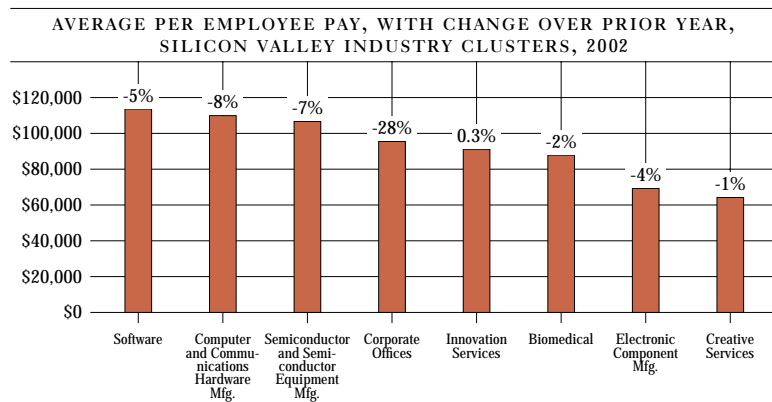
The estimated average pay in Silicon Valley declined 1.5% in 2003 to \$62,400 (after accounting for inflation). This is the third year that Silicon Valley's average pay declined. Average pay reached a peak of \$81,700 in 2000. Average pay in 2003 is comparable to the level in 1998.

Silicon Valley's average pay is 60% higher than that of the nation (\$37,300), while the region's cost of living is 47% higher than the U.S. average.



Source: California Employment Development Department
*Estimate

Average Pay Declines Across the Clusters



WHY IS THIS IMPORTANT?

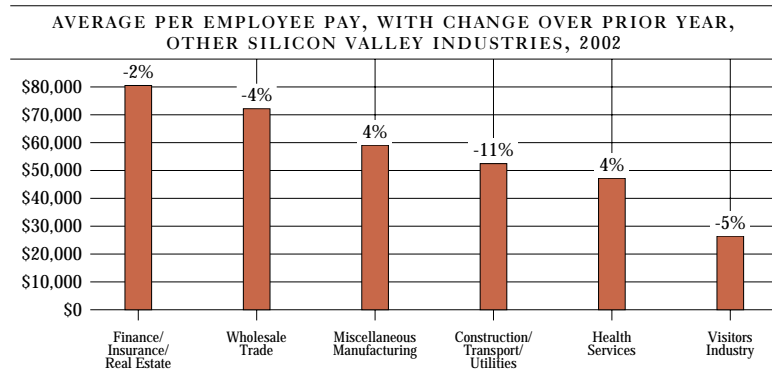
Average pay in Silicon Valley's driving industry clusters reflects in part the wealth-generating impact of outward-oriented industries (industries that sell to customers outside of the region). Average pay in these clusters also reflects employers' competition for skilled workers.

HOW ARE WE DOING?

In 2002, average pay in the region's industry clusters declined in all clusters except for Innovation Services. Pay in Corporate Offices showed the greatest decline (28% in inflation-adjusted terms) from \$133,000 in 2001 to \$95,500 in 2002. Average pay in Computer and Communications Hardware Manufacturing declined 8% while pay in Semiconductor and Semiconductor Equipment Manufacturing declined 7%. Average pay in Innovation Services increased a modest 0.3%. Innovation Services includes engineering, management consulting, and research and development related services.

Software was the highest paying of all the clusters at \$113,700 per employee. Average pay in Computer and Communications Hardware Manufacturing was second highest at \$110,000 per employee, followed by Semiconductor and Semiconductor Equipment Manufacturing at \$106,600. Average pay in Biomedical was \$88,000. Of the driving industry clusters, Creative Services had the lowest pay, averaging \$64,200. Creative Services includes design, marketing, and arts-related employment. All eight of Silicon Valley's driving industry clusters pay higher than the average wage in the region.

Average pay also declined across other Silicon Valley industries, except in Health Services and Miscellaneous Manufacturing, which both grew by 4%. Finance/Insurance/Real Estate had the highest average pay at \$80,500, followed by Wholesale Trade (\$72,200) and Miscellaneous Manufacturing (\$59,000). The lowest-paying industry of this group was the Visitors Industry, which paid \$26,400 on average.



Source: California Employment Development Department

Many Leave, but Births and New Arrivals Keep Population Constant

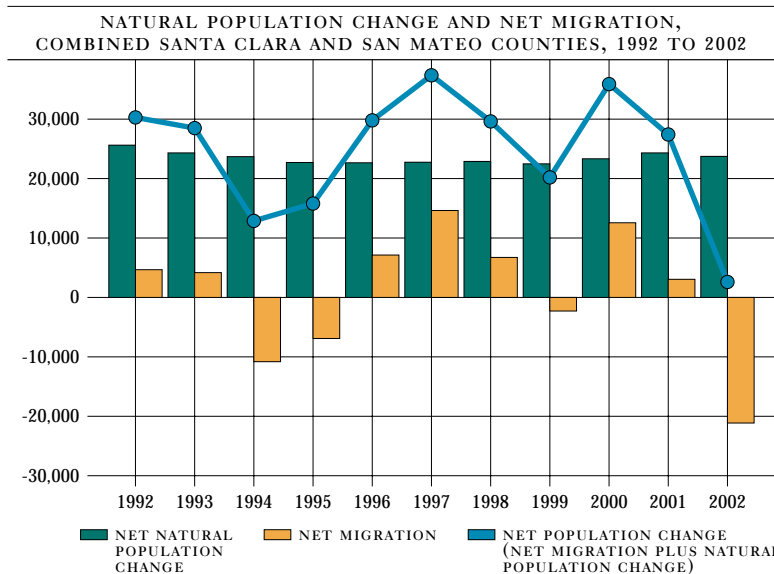
WHY IS THIS IMPORTANT?

Silicon Valley's changing face is shaped by population growth. Population growth is a function of net migration (the sum of immigration and out-migration) and natural population change (number of births minus number of deaths). This indicator tracks the components of population change in the Silicon Valley region.

HOW ARE WE DOING?

In 2002, 37,300 people were born and 13,500 people died in Silicon Valley, while 17,900 people moved into the Valley and 39,000 people moved away. The net gain from births and deaths was 23,800, while the net loss from migration was 21,100. As a result, Silicon Valley's population grew by just 2,700 in 2002, an increase of 0.1% over 2001.

From 1992 to 2002, the region experienced a net population gain of 270,000. Ninety-six percent or 258,000 residents were added as a result of natural population growth (408,000 births minus 150,000 deaths). The remaining 4% of the population increase was the result of net migration (210,500 in-migrants minus 199,000 out-migrants).



Source: California Department of Finance

Availability of Commercial Space Rises, Rents Drop Substantially From Peak

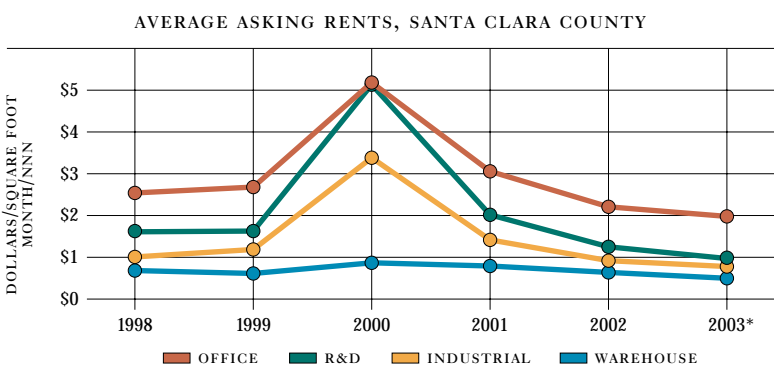
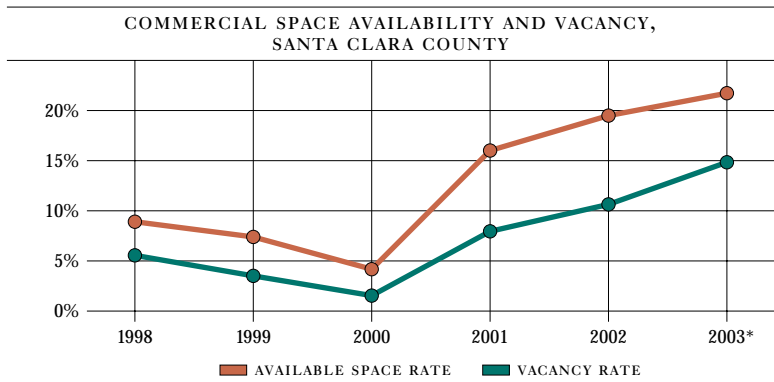
WHY IS THIS IMPORTANT?

This indicator tracks the rates of commercial space 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 availability rate is the percentage of space that is not occupied, leased or sold during the year. It includes space that is vacant as well as space that is technically occupied but that the tenant would like to sell or lease. Increases in both vacancy and availability, as well as declines in rents, reflect slowing demand relative to supply.

HOW ARE WE DOING?

The commercial space vacancy rate was about 1.5% in 2000, rising to 15% in 2003. In addition, the percentage of commercial space available in Santa Clara County was 22% in 2003, rising from 4% in 2000. Availability varied by type of space, from R&D (25%) and Office (22%) to Warehouse (17%) and Industrial (12%).

The average asking rents for all types of commercial space have dropped substantially since their peak in 2000—ranging from R&D (-81%) to Industrial (-77%), Office (-62%) and Warehouse (-43%).



Source: Colliers/Parrish

Note: Lease rate data for industrial, warehouse and R&D 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" (FS).

*Estimate for third quarter 2003



INNOVATIVE
ECONOMY



LIVABLE
ENVIRONMENT

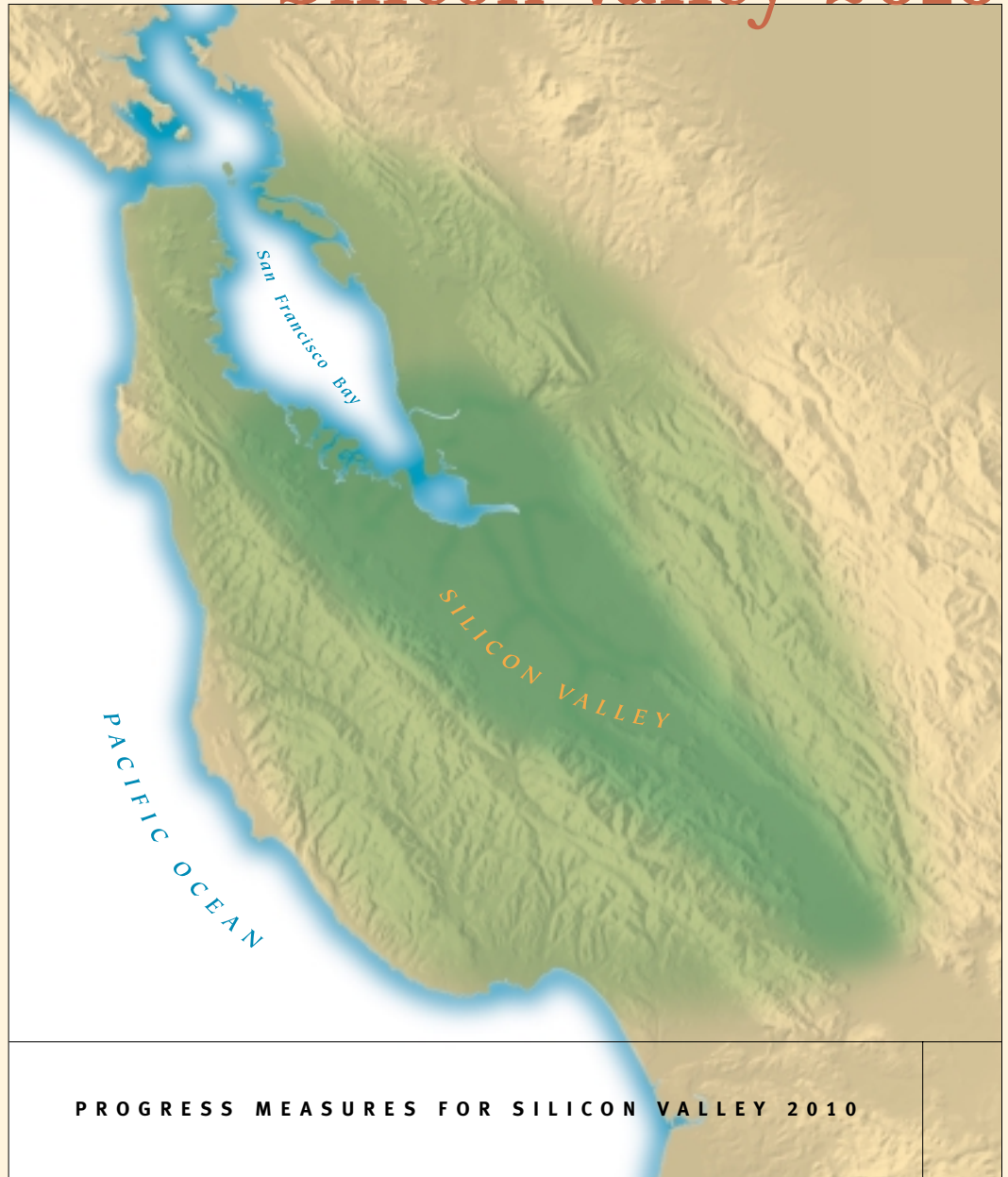


INCLUSIVE
SOCIETY



REGIONAL
STEWARDSHIP

Silicon Valley 2010



This second part of the *Index of Silicon Valley* is organized according to the four theme areas and 17 goals of *Silicon Valley 2010: A Regional Framework for Growing Together*. Joint Venture published *Silicon Valley 2010* in October 1998, after more than 2,000 residents and community leaders gave input on what they would like Silicon Valley to become by the year 2010. For more information about the *Silicon Valley 2010* vision, goals and recommended progress measures, call (408) 271-7213, or visit our website at www.jointventure.org.

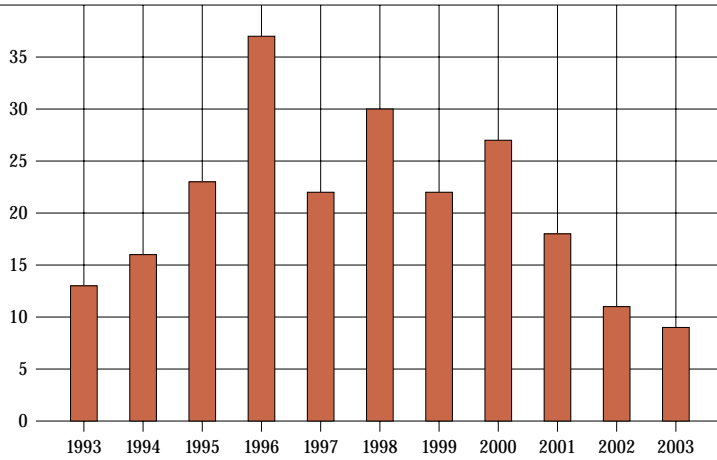
Silicon Valley 2010 Goals

<p>OUR INNOVATIVE ECONOMY INCREASES PRODUCTIVITY AND BROADENS PROSPERITY</p>	<p>OUR INCLUSIVE SOCIETY CONNECTS PEOPLE TO OPPORTUNITIES</p>
<p>GOAL 1: INNOVATION AND ENTREPRENEURSHIP. Silicon Valley continues to lead the world in technology and innovation.</p> <p>GOAL 2: QUALITY GROWTH. Our economy grows from increasing skills and knowledge, rising productivity and more efficient use of resources.</p> <p>GOAL 3: BROADENED PROSPERITY. Our economic growth results in an improved quality of life for lower-income people.</p> <p>GOAL 4: ECONOMIC OPPORTUNITY. All people, especially the disadvantaged, have access to training and jobs with advancement potential.</p>	<p>GOAL 10: EDUCATION AS A BRIDGE TO OPPORTUNITY. All students gain the knowledge and life skills required to succeed in the global economy and society.</p> <p>GOAL 11: TRANSPORTATION CHOICES. We overcome transportation barriers to employment and increase mobility by investing in an integrated, accessible regional transportation system.</p> <p>GOAL 12: HEALTHY PEOPLE. All people have access to high-quality, affordable health care that focuses on disease- and illness-prevention.</p> <p>GOAL 13: SAFE PLACES. All people are safe in their homes, workplaces, schools and neighborhoods.</p> <p>GOAL 14: ARTS AND CULTURE THAT BIND COMMUNITY. Arts and cultural activities reach, link and celebrate the diverse communities of our region.</p>
<p>OUR COMMUNITIES PROTECT THE NATURAL ENVIRONMENT AND PROMOTE LIVABILITY</p>	<p>OUR REGIONAL STEWARDSHIP DEVELOPS SHARED SOLUTIONS</p>
<p>GOAL 5: PROTECT NATURE. We meet high standards for improving our air and water quality, protecting and restoring the natural environment, and conserving natural resources.</p> <p>GOAL 6: PRESERVE OPEN SPACE. We increase the amount of permanently protected open space, publicly accessible parks and green space.</p> <p>GOAL 7: EFFICIENT LAND REUSE. Most residential and commercial growth happens through recycling land and buildings in existing developed areas. We grow inward, not outward, maintaining a distinct edge between developed land and open space.</p> <p>GOAL 8: LIVABLE COMMUNITIES. We create vibrant community centers where housing, employment, schools, places of worship, parks and services are located together, all linked by transit and other alternatives to driving alone.</p> <p>GOAL 9: HOUSING CHOICES. We place a high priority on developing well-designed housing options that are affordable to people of all ages and income levels. We strive for balance between growth in jobs and housing.</p>	<p>GOAL 15: CIVIC ENGAGEMENT. All residents, business people and elected officials think regionally, share responsibility and take action on behalf of our region's future.</p> <p>GOAL 16: TRANSCENDING BOUNDARIES. Local communities and regional authorities coordinate transportation and land-use planning for the benefit of everybody. City, county and regional plans, when viewed together, add up to a sustainable region.</p> <p>GOAL 17: MATCHING RESOURCES AND RESPONSIBILITY. Valley cities, counties and other public agencies have reliable, sufficient revenue to provide basic local and regional public services.</p>

GOAL 1: INNOVATION AND ENTREPRENEURSHIP Silicon Valley continues to lead the world in technology and innovation.

Number of Fast-Growth Companies Declines Again

NUMBER OF PUBLICLY TRADED GAZELLE FIRMS IN SILICON VALLEY



Source: Standard & Poor's

WHY IS THIS IMPORTANT?

High numbers of fast-growth companies reflect high levels of innovation in the Valley. By generating accelerated increases in sales, these firms stimulate the development of other businesses and personal spending throughout the region. Research shows that fast-growth firms generate the majority of new jobs in a region.

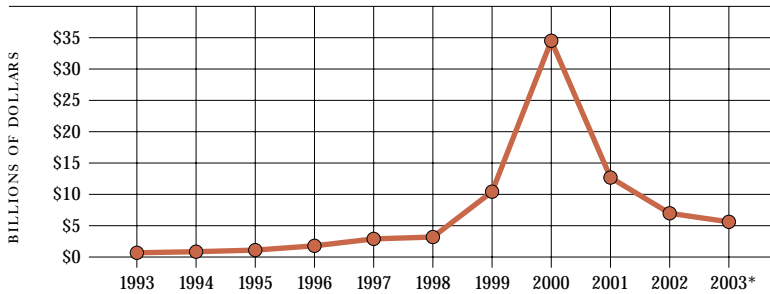
HOW ARE WE DOING?

Gazelles are publicly traded companies whose revenues have grown at least 20% for each of the last four years, starting with at least \$1 million in sales.

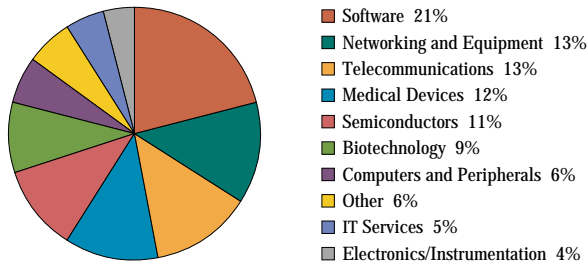
As of the third quarter of 2003, there were nine gazelle companies located in Silicon Valley. This is the fewest number of gazelle companies in the region since the *Index* began tracking gazelle companies in 1990. The number of gazelle firms in Silicon Valley has declined steadily since 2000, when there were 27 gazelle companies in the region.

Venture Capital Investment Slows, Shifts to Biotechnology and Medical Devices

TOTAL VENTURE CAPITAL FINANCING IN SILICON VALLEY FIRMS



VENTURE CAPITAL INVESTMENT IN SILICON VALLEY FIRMS BY INDUSTRY 2003



Source: PricewaterhouseCoopers/Thomson Venture Economics/National Venture Capital Association MoneyTree™ Survey
*Estimate

WHY IS THIS IMPORTANT?

New venture capital investment is a leading indicator of innovation. Companies that have passed the screen of venture capitalists are innovative, are entrepreneurial and have growth potential. Typically, only firms with potential for exceptionally high rates of growth over a 5- to 10-year period will attract venture capital. These firms are usually highly innovative in their technology and market focus.

HOW ARE WE DOING?

Venture capital investment declined for the third year in a row, from \$7 billion in 2002 to an estimated \$5.6 billion in 2003, a decrease of 19%. Venture capital investment declined by 63% from 2000 to 2001 and by an additional 45% between 2001 and 2002. Despite these declines, Silicon Valley's share of national venture capital investment has more than doubled from 14% in 1995 to an estimated 33% in 2003.

As of the third quarter in 2003, venture capitalists had funded 582 deals, a number comparable to the 586 funded by the third quarter in 2002. However, average deal size has decreased from \$9.3 million in 2002 to \$7.2 million in 2003.

Medical Device and Equipment companies increased their share of total venture capital funding from 8% in 2002 to 12% in 2003. The share of funding in Biotechnology companies grew from 8% to 9% during this same period. Venture capital investment in these two areas together now equals that of Software (21%), the industry that receives the largest share of funding. In 2003, venture capital investment shifted away from Networking and Equipment and IT Services companies, which dropped from 19% to 13% and 10% to 5%, respectively.

GOAL 2: QUALITY GROWTH Our economy grows from increasing skills and knowledge, rising productivity and more efficient use of resources.

Regional Per Capita Income Declining, Though More Slowly

WHY IS THIS IMPORTANT?

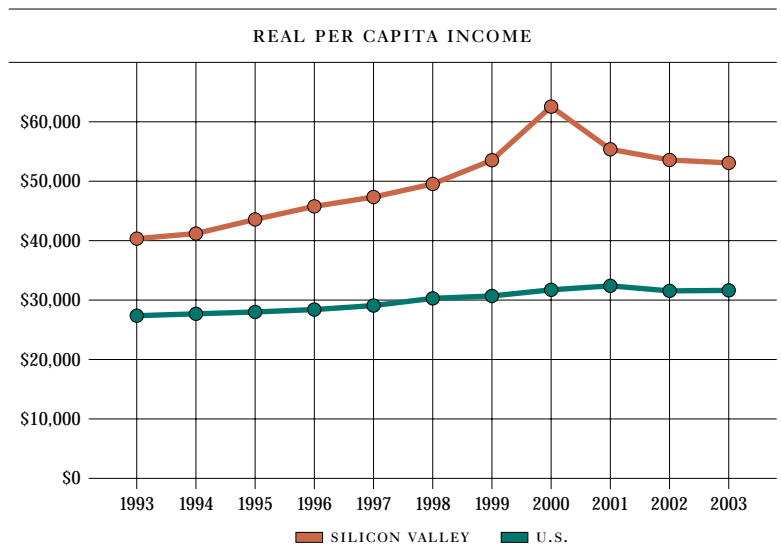
Growing real income per capita is a bottom-line measure of a wealth-creating, competitive economy. The indicator is total personal income from all sources (e.g., wages, investment earnings, self-employment) adjusted for inflation and divided by the total resident population. Per capita income rises when a region generates wealth faster than its population increases.

HOW ARE WE DOING?

Per capita income decreased for the third year in a row since peaking in 2000. In inflation-adjusted terms, regional per capita income declined by 15%, from \$62,550 in 2000 to \$53,100 in 2003.

Between 2002 and 2003, regional per capita income decreased by 1% from \$53,600 to \$53,100.

Nationally, per capita income peaked in 2001 at \$32,400. U.S. per capita income declined between 2001 and 2002 but it then increased slightly from \$31,500 in 2002 to \$31,600 in 2003 in inflation-adjusted terms.



Sources: Economy.com, U.S. Census Bureau

Value Added Per Employee Continues to Grow

WHY IS THIS IMPORTANT?

Value added is a proxy for productivity and reflects how much economic value companies create. Increased value added is a prerequisite for increased wages. Innovation, process improvement and industry/product mix are all factors that drive value added. Value added is derived by subtracting the costs of a company's materials, inputs and contracted services from the revenue earned from its products.

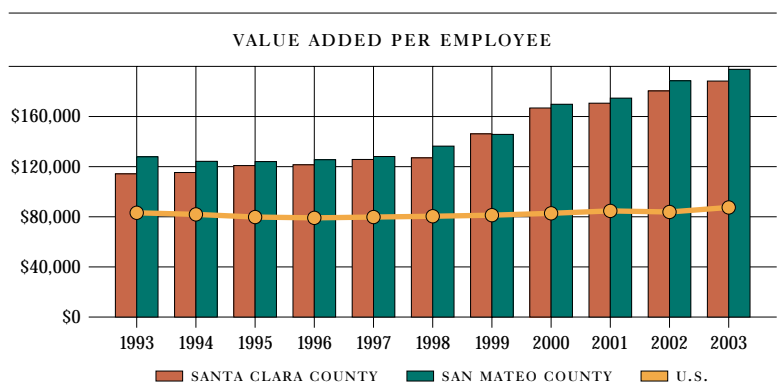
HOW ARE WE DOING?

Value added per employee in Santa Clara County increased 4.4% from \$180,300 per employee in 2002 to \$188,300 in 2003 in inflation-adjusted terms. Value added per employee has increased at an average annual rate of 4% since 1990.

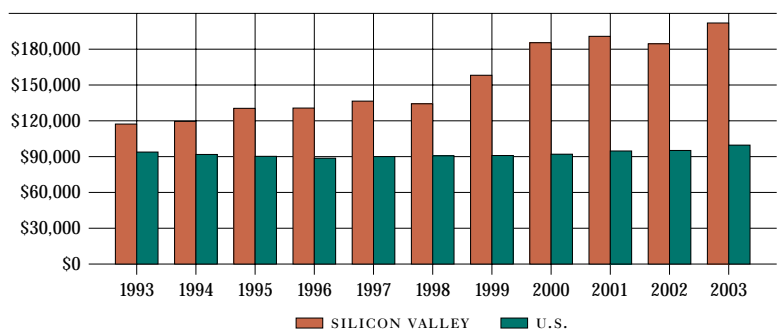
Value added per employee reached \$197,600 in 2003 and increased an average of 4.2% annually in San Mateo County during the past 13 years. The level of value added per employee in both San Mateo and Santa Clara County is more than twice that of the nation.

Nationally, value added per employee increased 4% from \$83,900 in 2002 to \$87,500 in 2003. U.S. value added per employee increased an average of 1% annually between 1990 and 2003.

Value added per employee in Silicon Valley's industry clusters grew 9% from \$184,500 in 2002 to \$201,900 in 2003. Cluster value added per employee grew 4.6% percent annually in inflation-adjusted terms during the past 13 years. Nationally, in the same industry clusters, value added per employee grew 1% annually from \$91,000 in 1990 to \$99,600 in 2003.



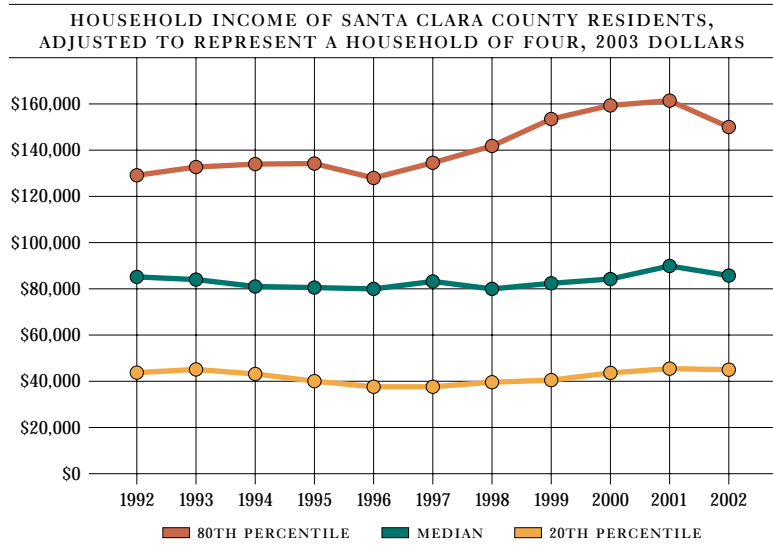
VALUE ADDED PER EMPLOYEE IN THE DRIVING INDUSTRY CLUSTERS



Source: Economy.com

GOAL 3: BROADENED PROSPERITY Our economic growth results in an improved quality of life for lower-income people.

Income Drops More for High-Income Than Low-Income Households



Source: U.S. Census Bureau

WHY IS THIS IMPORTANT?

This progress measure shows changes in the standard of living among households at different income levels. This indicator tracks over time the income available to a representative four-person household at the 80th percentile, median and 20th percentile of the income distribution. Household income includes income from wages, investments, Social Security and welfare payments for all people in the household.

HOW ARE WE DOING?

In 2002, inflation-adjusted incomes of households in the 20th percentile declined slightly. A representative household at the 20th percentile earned approximately \$45,000 in 2002, compared to \$45,500 in 2001, a drop of 1%. Nationally, household incomes at the 20th percentile dropped 0.3% from \$27,700 in 2001 to \$27,600 in 2002.

Between 1992 and 2002 national household incomes at the 20th percentile rose 13% to \$27,600. By comparison, Santa Clara County household incomes at the 20th percentile grew 3.7% in inflation-adjusted terms. In addition, between 1992 and 2002, the local cost of living increased 14.4%.

Incomes for households at the 80th percentile dropped 7% from 2001 to 2002, following strong growth in the last ten years. Since 1992, inflation-adjusted incomes of households at the 80th percentile increased 16% from \$129,000 in 1992 to an estimated \$150,200 in 2002, following a peak of \$161,000 in 2001.

GOAL 4: ECONOMIC OPPORTUNITY All people, especially the disadvantaged, have access to training and jobs with advancement potential.

Rapid Growth in Community College Certificates Awarded, Particularly in the Health Field

WHY IS THIS IMPORTANT?

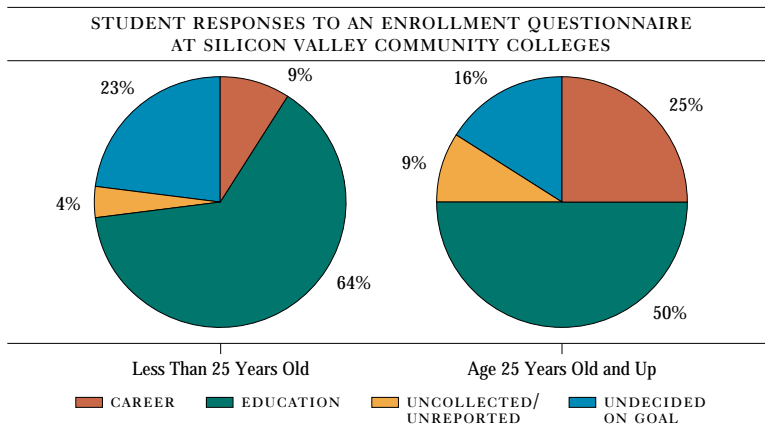
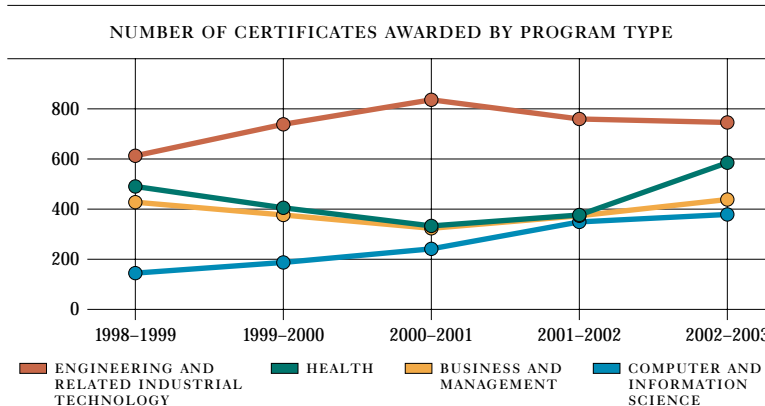
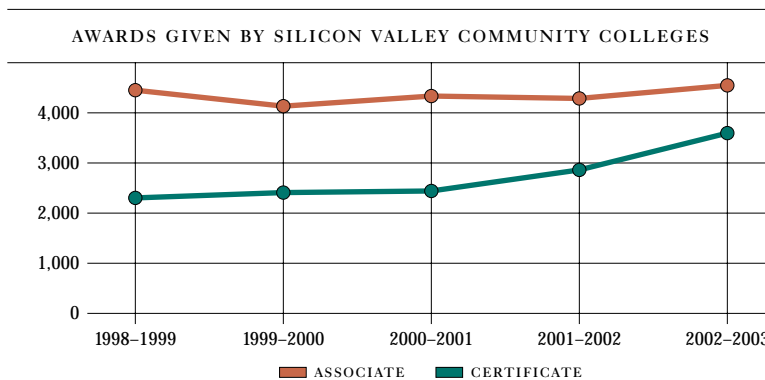
Community colleges are publicly supported and locally oriented colleges that offer programs for transfer to a four-year college, career education programs and continuing education for cultural growth, life enrichment, and skills improvement. The opportunity for further education gives people the chance to train and retrain for well-paying jobs.

HOW ARE WE DOING?

The number of certificates awarded annually rose 50% from approximately 2,300 certificates in 1998–1999 to nearly 4,600 in 2002–2003. Two-thirds of the increase was in the fields of Engineering and Related Industrial Technology, Health, Business Management, and Computer and Information Science. Health certificates showed the greatest short-term increase: 60% from 2001–2002 to 2002–2003, from 372 to 585 certificates.

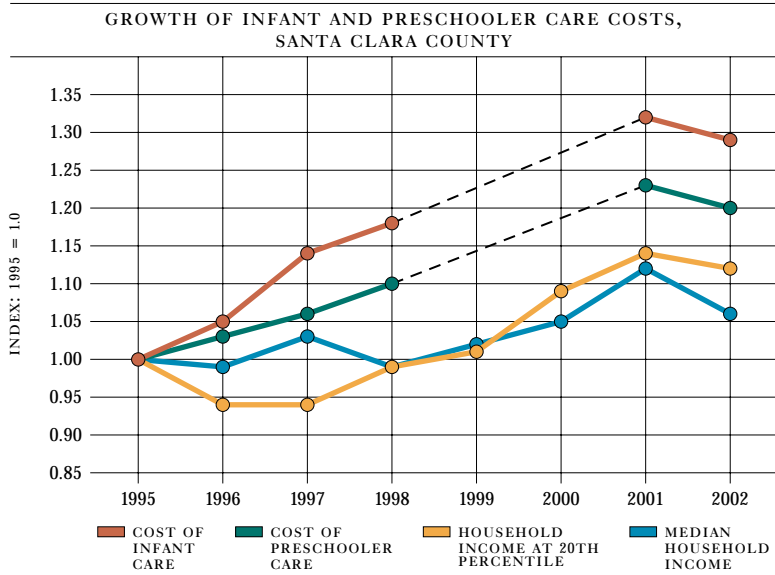
The number of associate degrees awarded increased 7% from 2001–2002 to 2002–2003. Most associate degrees were awarded in Interdisciplinary Studies (51%), Business and Management (12%), Health (8%), Engineering and Related Industrial Technology (6%) and Computer and Information Science (4%).

In enrollment questionnaires for Silicon Valley community colleges, the majority of students (56%) report that they are attending in order to reach educational goals (e.g., to obtain an associate degree or transfer to a four-year college), while 18% say that they are attending to further career goals (e.g., obtain a certificate or update job skills). Among students under 25 the focus is primarily on education (64% education, 9% career), while a much larger proportion of students 25 and over are focused on career advancement (50% education, 25% career).



Source: California Community Colleges Chancellor's Office

Child Care Costs Decline, but Median Income Falls Faster



Source: Community Child Care Council of Santa Clara County

WHY IS THIS IMPORTANT?

Access to quality, affordable child care makes it possible for parents to work and for children to prepare to learn. How successfully a region meets child care needs has important implications for both the current and the future productivity of its workforce.

In a 2001 survey, 46% of working poor women (those earning less than \$25,000 annually for full-time work) cited “child and family care responsibilities” as a major barrier to advancing in their job or career.

HOW ARE WE DOING?

Child care costs for both preschool and infant care decreased by 2% from a full-time average weekly fee of \$200 per child in 2001 to \$196 per child in 2002. Although child care costs declined by 2%, median income dropped about 6% during this period. Incomes of households at the 20th percentile fared better, falling 1% as child care costs dropped 2%. This is the first decline in child care costs in eight years and is calculated in inflation-adjusted terms. Between 1995 and 2002, the cost of full-time child care in Santa Clara County rose 20% for a preschooler and 28% for an infant.

The decline in the cost of child care corresponds with an increase in child care vacancy rates. The vacancy rate jumped from 11% in 2002 to 22% in 2003 in both infant-care centers and homes.

GOAL 5: PROTECT NATURE We meet high standards for improving our air and water quality, protecting and restoring the natural environment, and conserving natural resources.

South Bay Water Quality Affected by PCBs and Mercury

WHY IS THIS IMPORTANT?

Measuring the concentrations of polychlorinated biphenyls (PCBs) and mercury in the environment and in Bay organisms serves as an indicator of the overall health of the South Bay ecosystem. These contaminants exist in the water and sediment of the Bay and accumulate in the tissues of birds and fish. PCBs and mercury move through the food web from plankton to invertebrates to vertebrates (including mammals), increasing in concentration. Wildlife health and reproduction as well as human health can be affected by these contaminants.

This indicator tracks average annual PCB and mercury concentrations of water samples collected from the South Bay. The charts show average concentrations of these contaminants with U.S. Environmental Protection Agency and State Water Resources Control Board water quality guidelines. These guidelines were established to protect human health and to serve as one of the primary indicators of the degree of Bay contamination.

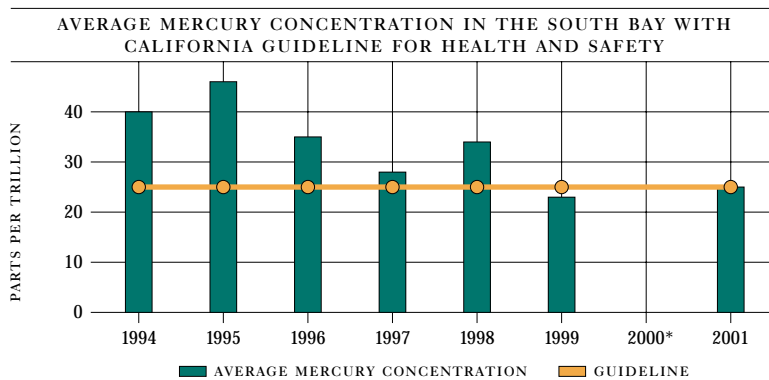
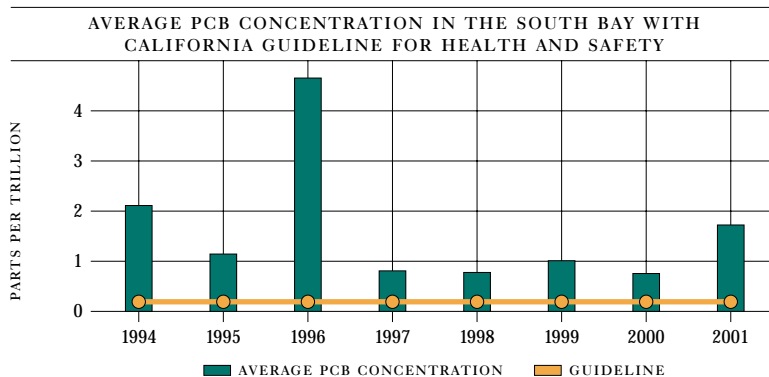
HOW ARE WE DOING?

In the South Bay, the average concentration of PCBs from water samples exceeded water quality guidelines every year over the 1994–2001 period.

Average mercury concentrations measured in the South Bay over the same period exceeded the guidelines every year except for 1999. No data are available for mercury concentrations in the South Bay for 2000.

The state Office of Environmental Health Hazard Assessment has issued an advisory for consumption of certain fish species caught from the Bay due to the high concentrations of PCBs and mercury in fish tissue (see www.oehha.ca.gov/fish/nor_cal/index.html).

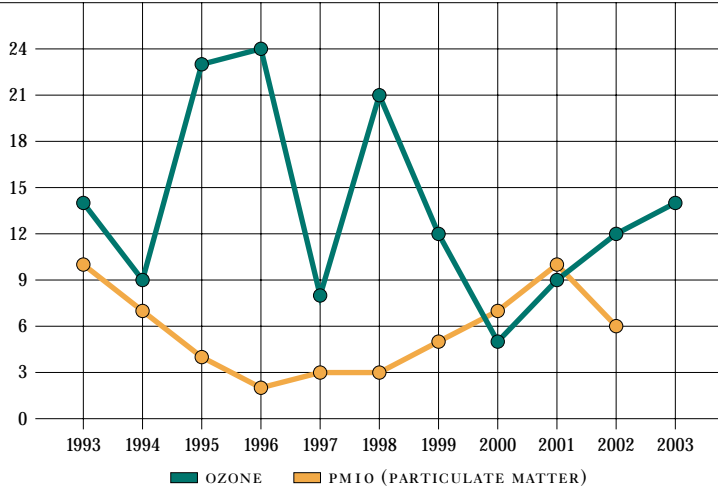
Despite a PCB ban in 1979, reduced mercury use, and improved wastewater treatment systems, these contaminants continue to persist in the South Bay. As a result of these exceedences, the San Francisco Bay Regional Water Quality Control Board is currently developing total maximum daily load (TMDL) plans to reduce the loadings of PCBs and mercury into the San Francisco Estuary.



Source: San Francisco Estuary Institute
 *Note: No data available

Air Quality Mixed, With Ozone Rising and Particulates Dropping

DAYS PER YEAR THAT SILICON VALLEY AIR QUALITY EXCEEDS STATE OZONE STANDARDS



Source: Bay Area Air Quality Management District

WHY IS THIS IMPORTANT?

High-quality air is fundamental to the health of people, nature and our economy. The number of days that Silicon Valley air exceeds ozone and particulate matter standards is an indicator of air contamination.

Ozone is the main component of smog, and vehicles are the primary source of ozone-creating emissions. The health consequences associated with particulate matter (PM10), such as increased incidence of asthma attacks, are more severe than those associated with ozone. Particulate matter—including dust, smoke and soot—is generated primarily during construction and wood burning.

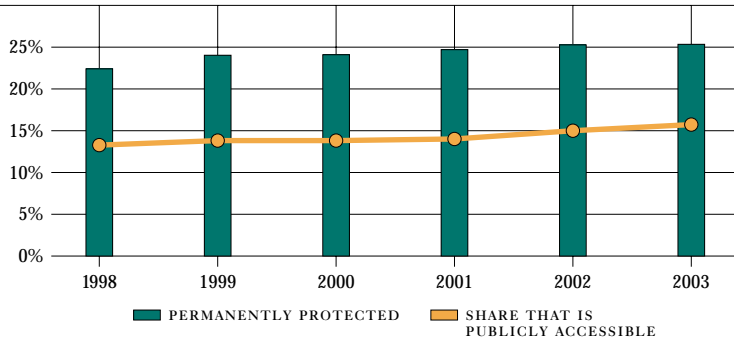
HOW ARE WE DOING?

Silicon Valley exceeded the state standard for ozone 14 days in 2003, up from 12 days in 2002. Days exceeding the state standard for PM10 emissions dropped for the first time since 1996, to six days in 2002. (PM10 is sampled only every sixth day, so actual days over the state standard could be as much as six times the number shown, or 36 days.)

GOAL 6: PRESERVE OPEN SPACE We increase the amount of permanently protected open space, publicly accessible parks and green space.

25% of Region Is Permanently Protected Open Space, With 2/3 Publicly Accessible

PERMANENTLY PROTECTED OPEN SPACE AND SHARE THAT IS PUBLICLY ACCESSIBLE IN SILICON VALLEY AND PERIMETER



WHY IS THIS IMPORTANT?

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

This indicator tracks lands in Silicon Valley or along its perimeter that are permanently protected through public ownership or conservation easements. It also examines accessibility—those lands that are open to the public. Protected lands within walking distance of a transit stop are deemed accessible to the largest number of residents.

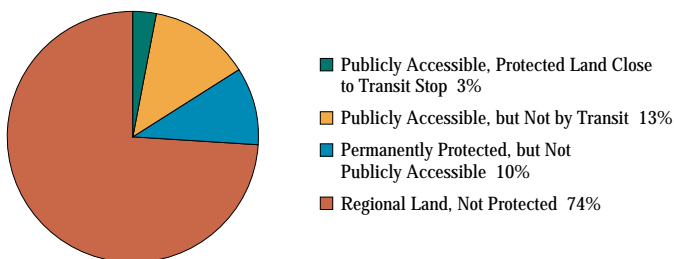
HOW ARE WE DOING?

In 2003, 25.34% or 488,100 acres in Silicon Valley and its perimeter were permanently protected open space. This is a slight increase (.07%) from 2002, when 25.27% of the land was protected. The major additions from 2002 to 2003 were due to work by the Peninsula Open Space Trust (over 450 acres) and the East Bay Regional Park District.

Between 1998 (431,600 acres) and 2003 (488,100 acres), the share of permanently protected open space in Silicon Valley increased by 13% (56,500 acres).

Sixty-two percent of the region’s permanently protected open space is accessible to the public, with a small proportion of that total within walking distance of a transit stop.

STATE OF LAND IN SILICON VALLEY IN 2003



Source: GreenInfo Network

GOAL 7: EFFICIENT LAND REUSE Most residential and commercial growth happens through recycling land and buildings in existing developed areas. We grow inward, not outward, maintaining a distinct edge between developed land and open space.

Cities Continue to Reduce Sprawl Through Efficient Land Use

WHY IS THIS IMPORTANT?

By directing growth to already developed areas, local jurisdictions can reinvest in existing neighborhoods, use transportation systems more efficiently and preserve nearby rural settings.

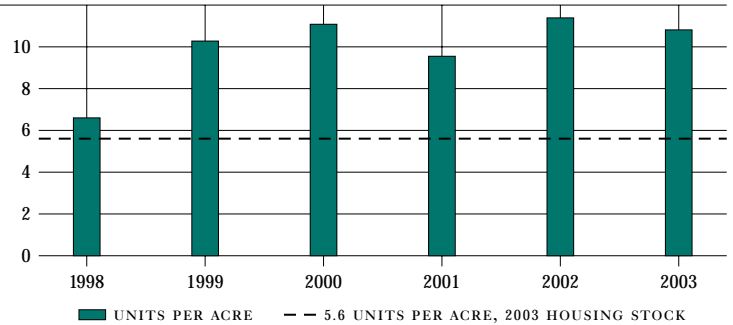
This section looks at two key indicators of sprawl: the average density of new residential development and the growth in urbanized land as compared to population growth.

HOW ARE WE DOING?

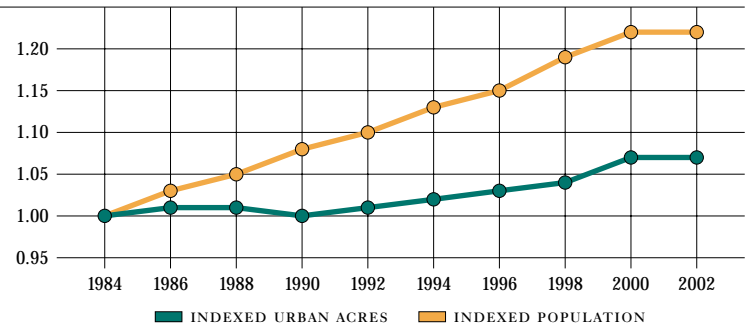
In 2003, Silicon Valley cities approved new residential development at an average density of 10.8 units per acre, which is a drop from 11.4 units per acre in 2002. However, the density of new residential development is almost double that of existing housing stock, which in 2003 had an average density of 5.6 units per acre. Since the land use survey was initiated in 1998, the average density of newly approved residential development rose from 6.6 units per acre to 10.8 units per acre, an increase of 64%.

Between 1984 and 2002, Santa Clara County’s population grew 22% while total acres of urbanized land grew only 7%. During the last two years, however, there was virtually no growth in either population or urbanized land—a sharp contrast to the trend over the last 16 years.

AVERAGE UNITS PER ACRE OF NEW RESIDENTIAL DEVELOPMENT, SILICON VALLEY



GROWTH IN URBAN ACRES COMPARED TO POPULATION GROWTH, SANTA CLARA COUNTY



Sources: City Planning and Housing Departments, Silicon Valley Environmental Partnership, California Department of Conservation

GOAL 8: LIVABLE COMMUNITIES We create vibrant community centers where housing, employment, schools, places of worship, parks and services are located together, all linked by transit and other alternatives to driving alone.

About Half of New Housing and New Jobs Located Near Transit



Source: City Planning and Housing Departments

WHY IS THIS IMPORTANT?

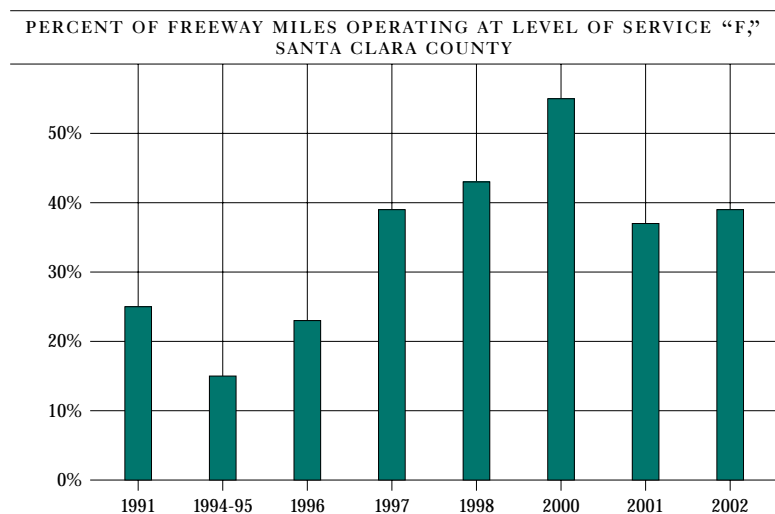
Focusing new economic and housing development near rail stations and major bus corridors reinforces the creation of compact, walkable mixed-use communities linked by transit. This helps to reduce traffic congestion on freeways and preserve open space near urbanized areas.

HOW ARE WE DOING?

A survey of Silicon Valley cities found that 46% of all new housing units approved in 2003 were located within one-quarter mile of a rail station or a major bus corridor. This represents 3,116 new units and a 55% increase in new housing located near transit over 2002.

The survey also found that the approval of non-residential space declined 75% in the last year, from 9.4 million square feet to 3.2 million square feet. The amount of newly approved non-residential development located within one-quarter mile of a rail station or a major bus corridor dropped by half, from 3.4 million square feet in 2002 to 1.7 million square feet in 2003. In 2003, this amount provides space for approximately 3,100 workers, or 55% of new jobs.

Freeway Congestion Well Below Peak



Source: Valley Transportation Authority

WHY IS THIS IMPORTANT?

Traffic congestion is a key factor affecting quality of life. Traffic congestion is a function of overall economic activity and regional design—the location of jobs and housing and the availability of other travel options, such as public transit.

This indicator shows the percentage of freeway miles operating at service level "F" during the afternoon peak travel time. Level "F" is the worst possible rating and means forced flow traffic with travel speeds of less than 35 miles per hour.

HOW ARE WE DOING?

In 2002, 39% of total freeway miles in Santa Clara County received the worst possible congestion rating—a drop from 55% of total freeway miles operating at level of service "F" in 2000. State Route 17 has improved the most, with a drop from 82% to 31% of miles operating at level of service "F." Interstate 880 continues to be one of the roads with the worst congestion (64% of miles operated at level of service "F" in 2002).

GOAL 9: HOUSING CHOICES We place a high priority on developing well-designed housing options that are affordable to people of all ages and income levels. We strive for balance between growth in jobs and housing.

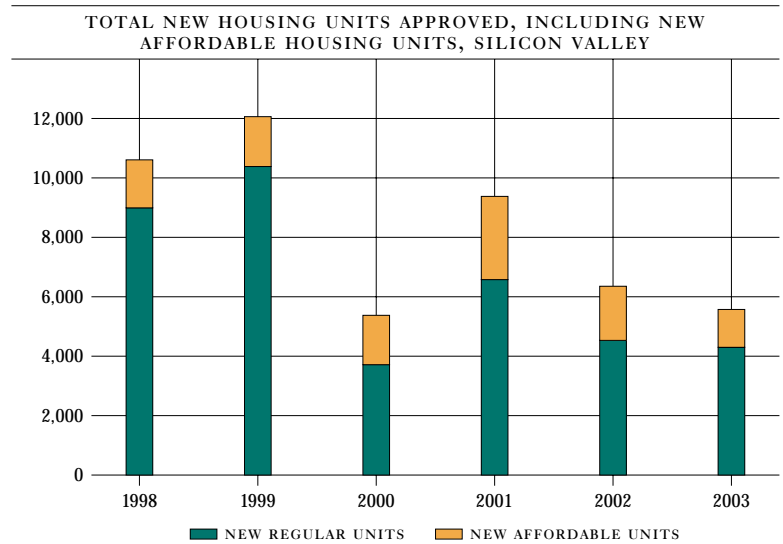
New Housing Approvals and Percentage Affordable Continue to Drop

WHY IS THIS IMPORTANT?

Our economy and community life depend on a broad range of jobs. Building housing that is affordable to lower- and moderate-income households provides access to opportunity and maintains balance in our communities. This indicator measures housing units approved for development by Silicon Valley cities in each fiscal year; this is a more “upstream” measure than actual housing starts.

HOW ARE WE DOING?

The number of new housing units that Silicon Valley cities approved for development fell 12% to 5,575 in 2003, compared to 6,360 in 2002. Of these new units 23% (1,270 units) will be affordable. (Affordable housing is for households making up to 80% of a county’s median income. In 2003, this income limit was \$84,400 for a family of four in Santa Clara County.) These units are developed primarily by nonprofit housing developers or are set aside as “affordable” within market-rate developments.



Source: City Planning and Housing Departments

Rents Decline Faster Than Incomes, but Housing Affordability Remains Low

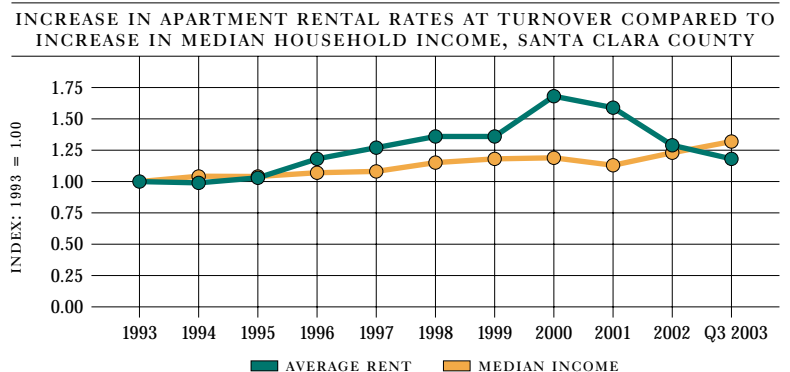
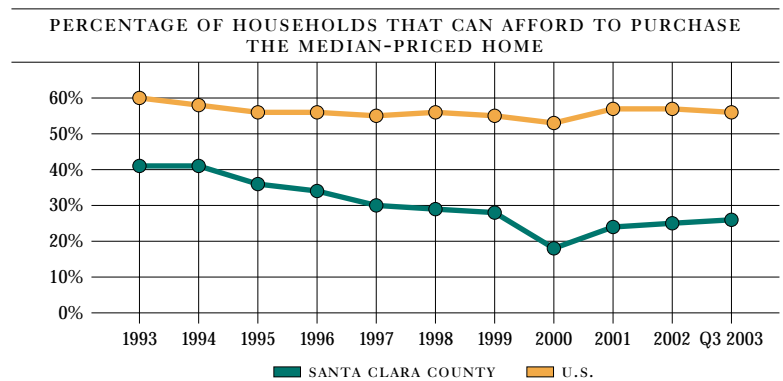
WHY IS THIS IMPORTANT?

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 service workers—such as teachers, registered nurses and police officers—to live in the communities in which they work.

HOW ARE WE DOING?

The percentage of households that can afford to purchase a median-priced home rose slightly from 25% in 2002 to 26% in 2003. This figure remains well below the peak of 41% affordability from a decade ago, and much lower than the current national housing affordability rate of 56%.

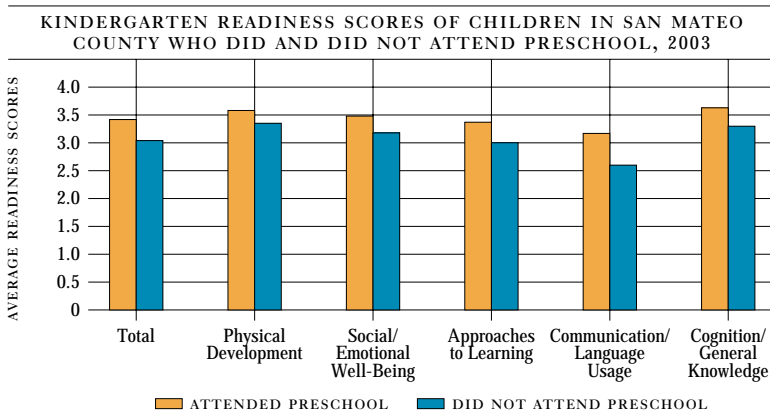
Average apartment rental rates at turnover declined by 9%, from approximately \$1,450 in 2002 to \$1,340 in the third quarter of 2003. In comparison, household incomes at the median and the 20th percentile dropped less (i.e., 5% and 1%, respectively). Occupancy rates remained the same from 2002 to 2003.



Sources: California Association of Realtors, RealFacts

GOAL 10: EDUCATION AS A BRIDGE TO OPPORTUNITY All students gain the knowledge and life skills required to succeed in the global economy and society.

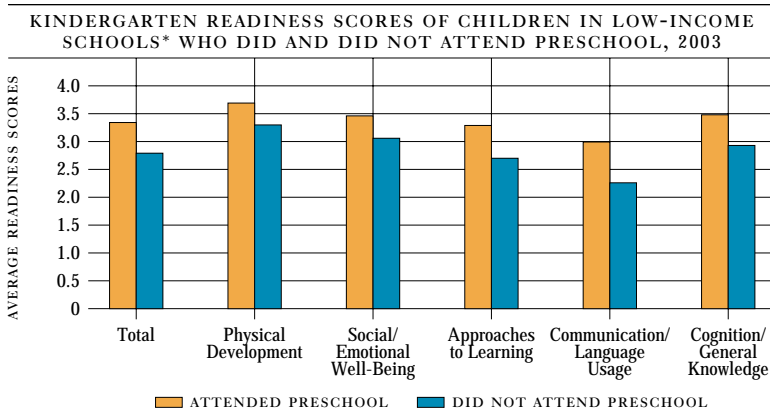
Children Who Have Attended Preschool Are Significantly More Prepared for Kindergarten Than Those Who Have Not



WHY IS THIS IMPORTANT?

One of our country’s national education goals—as stipulated by the National Education Goals Panel, an independent executive-branch agency of the federal government charged with monitoring progress toward eight national goals—is to ensure that every child enters kindergarten ready to learn. The Panel has recommended the national standard that “All children will have access to high-quality and developmentally appropriate preschool programs that help prepare children for school.”

School readiness is a proven foundation for later academic success and is a function of the stimulation and experience of the child as an infant, toddler and preschooler. Brain development that occurs during the first years of life lays the foundation for cognitive and language skills, social functioning, motor skills and emotional well-being. Preparedness for kindergarten is an important indicator of the effectiveness of our region’s early childhood development efforts.



HOW ARE WE DOING?

San Mateo County is one of the first communities in the nation to develop a systemic way of measuring progress in school readiness. Through the Peninsula Partnership for Children, Youth and Families—an initiative of the Peninsula Community Foundation and San Mateo County in partnership with Applied Survey Research—kindergarten teachers have evaluated a representative sample of 467 entering students in 2003 on five dimensions of school readiness.

This year’s analysis examines two groups: all students and students who attend schools in which 50% or more of the children are eligible for the free and reduced-cost lunch program (what the initiative calls “low-income schools”). In each of these groups, students who had previous preschool experience are compared with those who did not. The data show that students (especially those at low-income schools) with a formal curriculum-based preschool experience are more ready for kindergarten than students (especially those at low-income schools) without this preschool experience.

The greatest differences between those who attended preschool and those who did not were in the areas of “communication/language usage” followed by “approaches to learning” and “general knowledge.”

Sources: Peninsula Community Foundation, Applied Survey Research
 Notes: 1) Scores reflect a four-point continuum of proficiency, with 1.0 being “not yet,” 2.0 being “beginning,” 3.0 being “in progress” and 4.0 being “proficient.”
 2) Results are statistically significant between groups for each category.
 *Defined as schools in which 50% or more of the children are eligible for the free and reduced-cost lunch program.

54% of Third Graders Reading Below National Median, Wide Disparities Among Schools

WHY IS THIS IMPORTANT?

Research shows that students who do not achieve reading mastery by the end of third grade risk falling behind further in school.

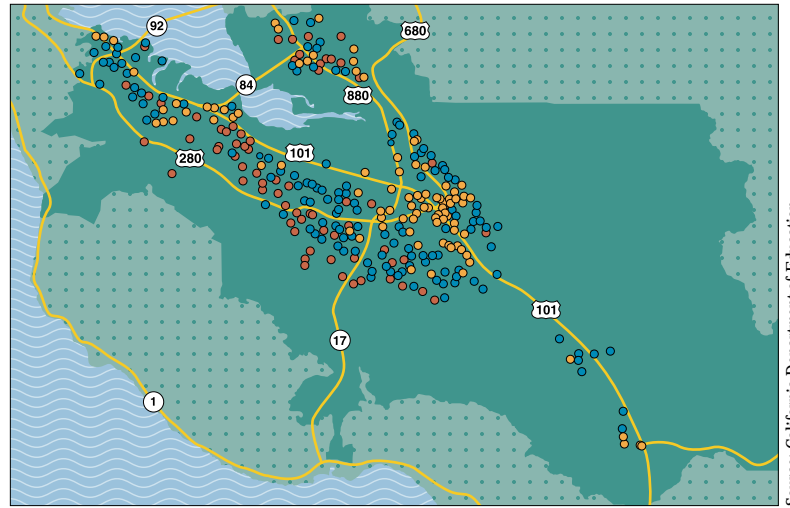
This indicator tracks third grade reading scores on the California Achievement Test, sixth edition (CAT/6), which measures performance relative to a national distribution.

HOW ARE WE DOING?

In 2003, 54% of Silicon Valley’s third graders scored at or below the national median in reading. Moreover, 29% scored in the lowest quartile, while 21% of third graders scored in the highest quartile in reading.

The following map shows the percentage of students at Silicon Valley elementary schools scoring at or above the national median. On average, schools in the lowest quartile had 18% of third graders scoring at or above the national median while schools in the highest quartile had 79% of students scoring at or above the national median.

SILICON VALLEY ELEMENTARY SCHOOLS BY PERCENTAGE OF THIRD GRADERS SCORING AT OR ABOVE NATIONAL MEDIAN ON CAT/6 READING TEST



Source: California Department of Education

■ LOWEST QUARTILE ■ MIDDLE QUARTILES ■ HIGHEST QUARTILE

Intermediate Algebra Enrollment Shows Disparity Across Schools

WHY IS THIS IMPORTANT?

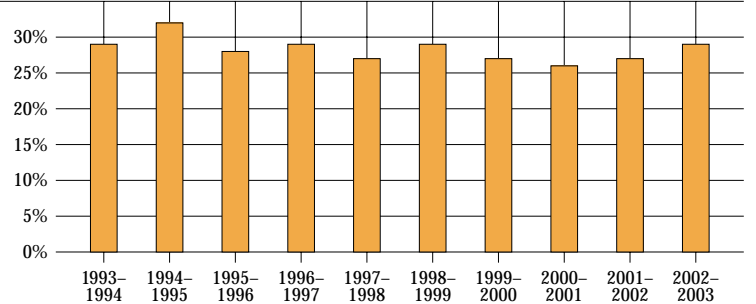
Completing Algebra I and moving on to advanced math courses is important for students planning to enter postsecondary education as well as for students entering the workforce after high school. This indicator shows the share of 10th- and 11th-grade students enrolled in Intermediate Algebra. Intermediate Algebra is one of the courses required for UC/CSU entry.

HOW ARE WE DOING?

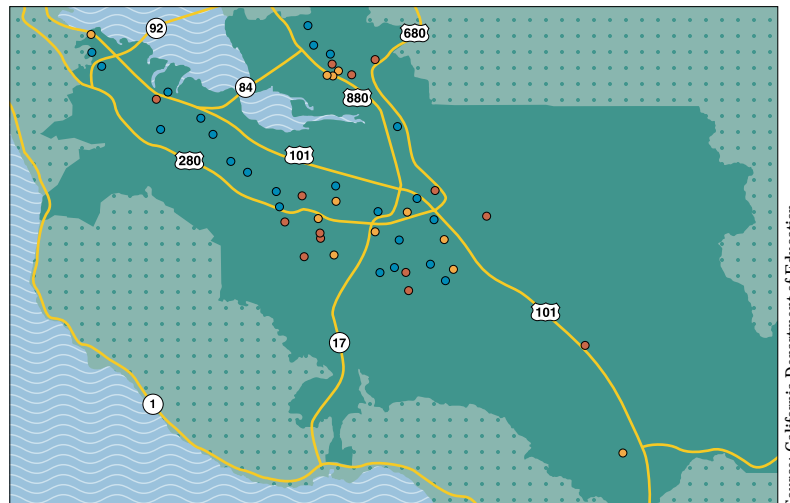
During the 2002–2003 school year, 29% of Silicon Valley’s 10th- and 11th-graders were enrolled in Intermediate Algebra—an increase from 27% in 2001–2002. Enrollments have remained relatively steady at about 29% since 1993–1994.

A wide disparity in Intermediate Algebra enrollments persists across Silicon Valley’s high schools. The following map shows Intermediate Algebra enrollments at Silicon Valley high schools in the lowest quartile (the lowest performing schools), in the middle quartiles, and at or above the highest quartile. At the lowest performing high schools, an average of 21% of students were enrolled in Intermediate Algebra compared to 58% at the highest performing high schools. The remaining high schools had an average of 35% of students enrolled in Intermediate Algebra.

PERCENTAGE OF 10TH- AND 11TH-GRADE STUDENTS ENROLLED IN INTERMEDIATE ALGEBRA



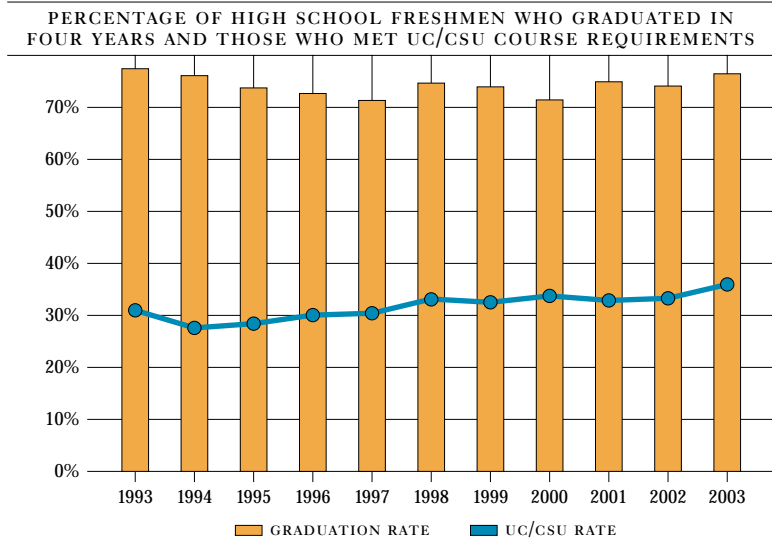
SILICON VALLEY HIGH SCHOOLS BY PERCENTAGE OF 10TH- AND 11TH-GRADE STUDENTS ENROLLED IN INTERMEDIATE ALGEBRA



Source: California Department of Education

■ LOWEST QUARTILE ■ MIDDLE QUARTILES ■ HIGHEST QUARTILE

High School Graduation Rate and Share of Students Meeting UC/CSU Requirements Increase



Sources: California Department of Education, Silicon Valley School Districts

WHY IS THIS IMPORTANT?

Passing a breadth of core courses required for college entry is a measure of educational achievement and readiness for future learning. Completing some type of education beyond high school is increasingly important for participating in the medium- and higher-wage sectors of the Silicon Valley economy.

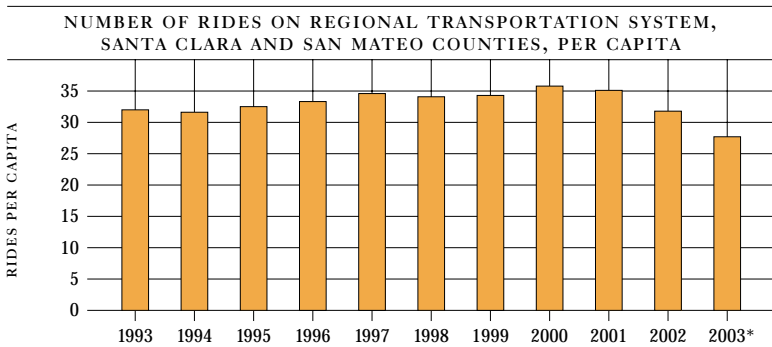
HOW ARE WE DOING?

In 2003, 76.5% of students who entered high school as freshmen in 1999 graduated. The graduation rate is up from 74.1% in 2002. Graduation rates have fluctuated since the early nineties, but generally by just a few percentage points.

In 2003, 36% of students who had entered high school as freshmen in 1999 both graduated and met the course requirements for entrance to UC/CSU. This marks an increase over 2002, when 33% of graduates met the UC/CSU requirements.

GOAL 11: TRANSPORTATION CHOICES We overcome transportation barriers to employment and increase mobility by investing in an integrated, accessible regional transportation system.

Transit Ridership and Hours of Service Continue to Decline



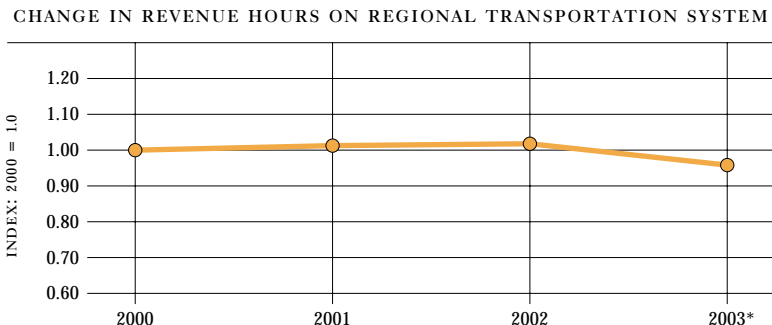
WHY IS THIS IMPORTANT?

A larger share of workers using alternatives to driving alone indicates progress in increasing access to jobs and improving the livability of our communities. Pedestrian- and transit-oriented development in neighborhoods and in employment and shopping centers increases opportunities for walking, bicycling and using public transportation instead of driving.

HOW ARE WE DOING?

Per capita transit ridership declined by 13% in 2003, from 32 annual rides to 28 rides. This marks the third consecutive period of decline in transit ridership since it peaked in 2000 at 36 rides per capita annually. VTA's bus, light rail and trolley services experienced the largest declines in ridership from 2002 to 2003.

Revenue hours measures the amount of public transit operating time or service. In 2003, total regional revenue hours declined about 6%.



Sources: SamTrans, Valley Transportation Authority, Altamont Commuter Express
 Note: ACE train ridership began in October 1998
 *Estimate

GOAL 12: HEALTHY PEOPLE All people have access to high-quality, affordable health care that focuses on disease- and illness-prevention.

Higher Child Immunization Rate, but More Low-Weight Births and Many Overweight Adults

WHY IS THIS IMPORTANT?

This section reports on three key measures of health: childhood immunization rates, low-weight births and adult obesity.

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

The proportion of children with low birth weight is a predictor of future costs that communities will incur for preventable health problems, special education and crime.

According to the Santa Clara Department of Public Health, adults who are obese and overweight have a higher incidence of preventable health issues, such as diabetes and heart disease. Adult obesity, defined by the Centers for Disease Control as a body mass index (BMI) of 30 or greater, is the second leading cause of preventable death in the U.S. and has reached epidemic proportions.

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

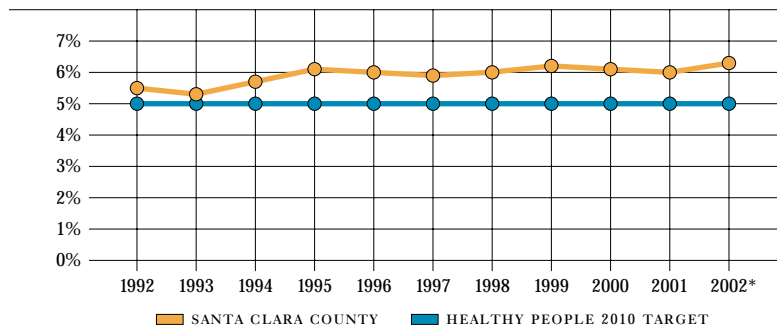
HOW ARE WE DOING?

The percentage of children aged 18–35 months with timely immunizations in Santa Clara County climbed from 80% in 2001 to 85% in 2002. The share of children with timely immunizations nationally was 79%.

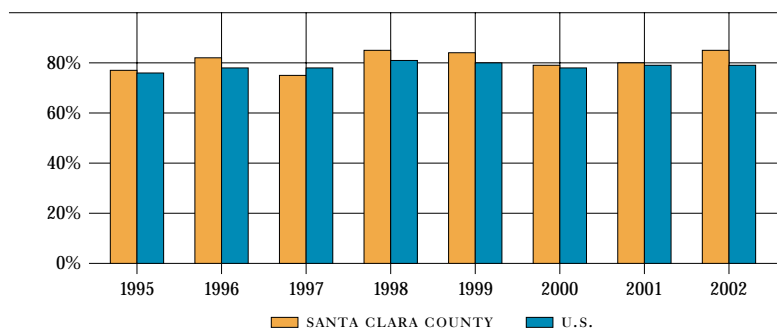
The share of low-weight births in Santa Clara County rose from 6% in 2001 to 6.3% in 2002. This increase in low-weight births follows a two-year downward trend. Santa Clara County has yet to meet the Healthy People 2010 Target of 5% on this measure.

In Santa Clara County, 14% of males and nearly 16% of females were obese in 2000. This compares to 20% of males and 19% of females, nationally. Although the percentage of Santa Clara County adults who are obese is below the federal 2010 target, research shows that nearly half the population in Santa Clara County is overweight (a BMI of 25 or greater), though not technically obese. Overweight individuals are susceptible to many of the same negative health issues that affect those who are obese.

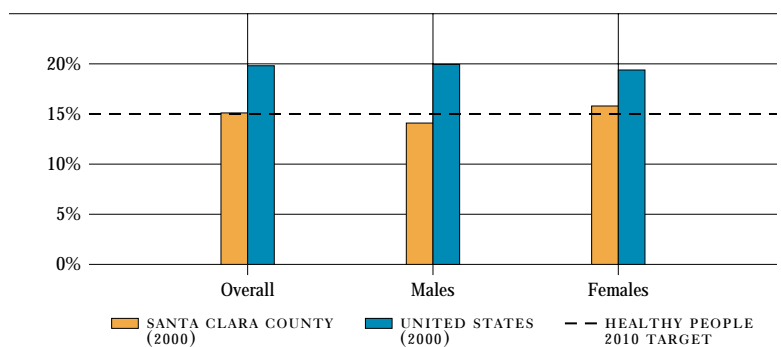
PERCENTAGE OF BIRTHS THAT ARE LOW WEIGHT



IMMUNIZATION LEVELS OF CHILDREN AGES 18–35 MONTHS



PERCENTAGE OF MALE AND FEMALE ADULTS WHO ARE OBESE



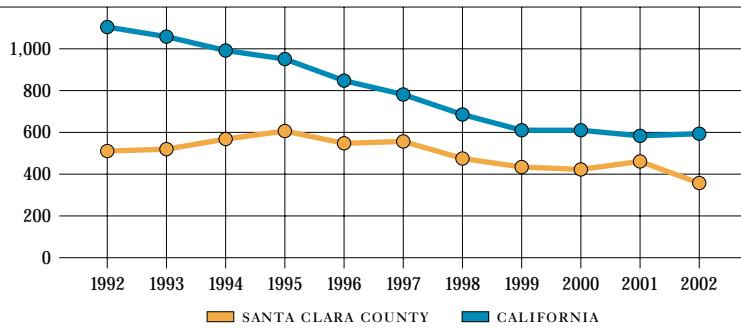
Sources: Santa Clara County Department of Public Health, Centers for Disease Control, California Department of Health Services

*Estimate

GOAL 13: SAFE PLACES All people are safe in their homes, workplaces, schools and neighborhoods.

Violent Crime and Child Abuse Cases Drop, but Juvenile Felony Arrests Rise

VIOLENT CRIMES PER 100,000 RESIDENTS



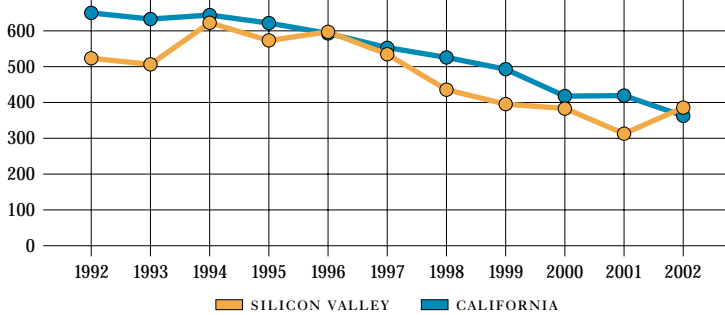
WHY IS THIS IMPORTANT?

The level and perception of crime in a community are significant factors that affect quality of life. In addition to economic costs, the fear, frustration and instability resulting from crime chisel away at our sense of community and undermine people’s ability to prosper. For juveniles, involvement in crime severely limits their options for the future. Children who are abused are more likely to commit criminal acts later in life. Safety for the community must start with safety for children in their homes.

HOW ARE WE DOING?

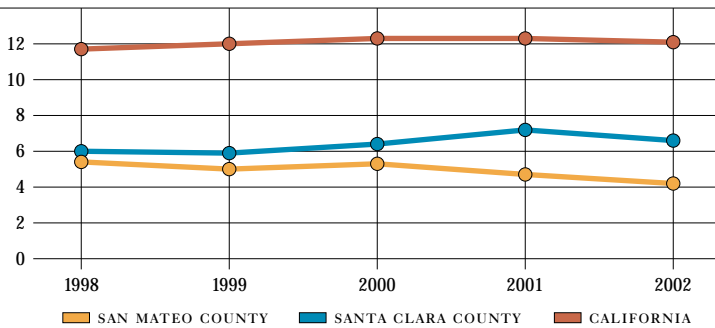
The violent crime rate in Santa Clara County dropped 23% from 461 in 2001 to 357 violent crimes per 100,000 people in 2002. Meanwhile the rate of violent crimes rose by 2% in California as a whole.

JUVENILE FELONY ARRESTS FOR VIOLENT CRIMES, PER 100,000 10- TO 17-YEAR-OLDS



Juvenile felony arrest rates for violent crimes in Santa Clara and San Mateo counties increased 24% from 312 violent crimes per 100,000 10- to 17-year-olds in 2001 to 386 violent crimes per 100,000 10- to 17-year-olds in 2002. This change included a 36% increase in arrests for robbery and a 21% increase in arrests for assault. In contrast, violent juvenile crime statewide dropped by 15% from 2001 to 2002.

SUBSTANTIATED CASES OF CHILD ABUSE PER 1,000 CHILDREN



In 2002, there were 3,528 substantiated reports of child abuse in Santa Clara and San Mateo counties. The rate of reported child abuse was half that of California: six per 1,000 1- to 17-year-olds in San Mateo and Santa Clara counties combined compared to a rate of 12 substantiated cases per 1,000 1- to 17-year-olds for the state. The rate of child abuse dropped by 8% in Santa Clara and 11% in San Mateo County from 2001 to 2002, compared to a drop of 2% in the state of California as a whole during the same period.

Sources: FBI Uniform Crime Reports, Child Welfare Services, California Department of Justice

GOAL 14: ARTS AND CULTURE THAT BIND COMMUNITY Arts and cultural activities reach, link and celebrate the diverse communities of our region.

Funding to Arts Organizations Declines Slightly, Revenue Mix Changes

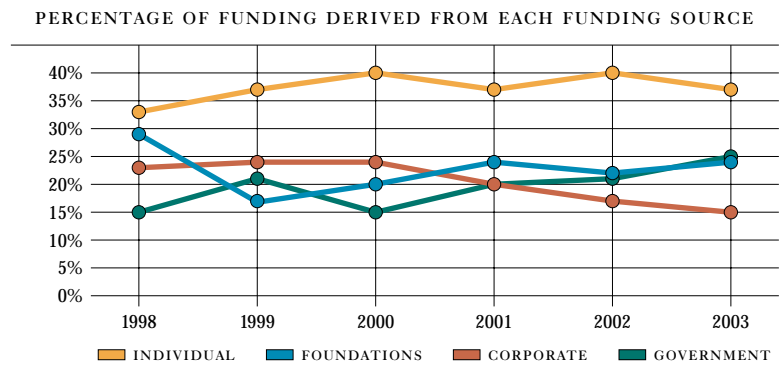
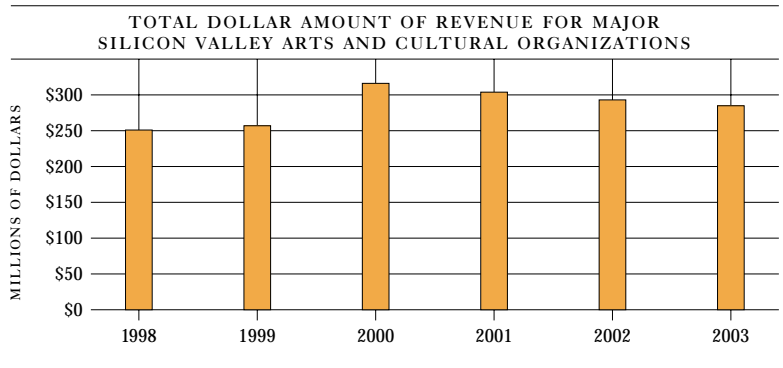
WHY IS THIS IMPORTANT?

Art and culture are integral to our community’s economic and civic future. Creative expression is essential for an economy based on innovation. And participation in arts and cultural activities connects diverse people to each other and to their community. Ensuring that our arts and cultural institutions are able to provide services to the community is important even in an economic downturn. The availability of funding is scarce for arts organizations in lean economic times. This indicator tracks the funding and the funding sources of Silicon Valley’s 15 largest arts and cultural institutions.

HOW ARE WE DOING?

Funding to Silicon Valley’s major arts and cultural organizations dropped 3.4% annually from a peak of \$316 million in 2000. Funding for these organizations in 2003 is about \$285 million. Today’s funding levels are still 14% higher than they were in 1998, when total funding was \$251 million.

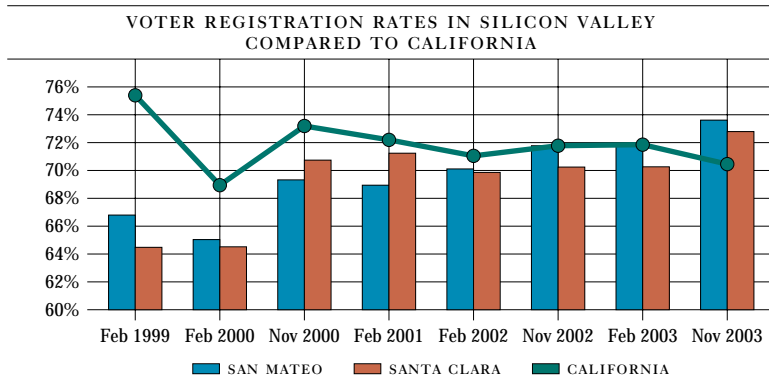
Although corporate funding to arts and cultural organizations made up 23% of all funding in 1998, that figure has dwindled to 15% in 2003 (or about \$41.6 million). At the same time, government and foundations have made up some but not all of the difference, as their combined contributions to the arts and cultural organizations in Silicon Valley reached 49% in 2003 (about \$138.7 million), up from 44% in 1998. Individual giving to the arts has varied somewhat since 1998, but has generally trended upward from 33% in 1998 to 37% in 2003 (about \$104.6 million).



Source: Survey of Silicon Valley Arts and Cultural Organizations

GOAL 15: CIVIC ENGAGEMENT All residents, business people and elected officials think regionally, share responsibility and take action on behalf of our region’s future.

Voter Registration Reaches New High, Now Above California Average

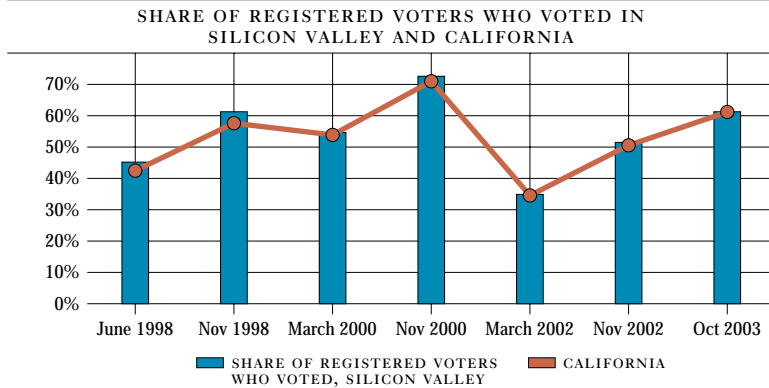


WHY IS THIS IMPORTANT?

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 decisionmaking. Voter registration is an indicator of residents’ ability to participate in national, state and local elections.

HOW ARE WE DOING?

Voter registration as a percentage of eligible voters in Santa Clara and San Mateo counties increased from 71% in February 2003 to 73% in November 2003. Registration in both San Mateo and Santa Clara counties is higher than the California registration level of 70% in November 2003. There were 1.1 million registered voters in Silicon Valley in 2003.



The rise in Silicon Valley voter registration derives from a 13% increase in registered Democrats, who accounted for 34% of the registered population in September 2003. Silicon Valley voter roles also saw a 300% increase in registered voters who declined to state an affiliation, and who accounted for 16% of the registered population during the same period.

In October 2003, Silicon Valley voter turnout (61.3%) was slightly higher than that of California (61.2%), continuing a pattern in recent years.

Source: California Secretary of State

GOAL 16: TRANSCENDING BOUNDARIES Local communities and regional authorities coordinate transportation and land-use planning for the benefit of everybody. City, county and regional plans, when viewed together, add up to a sustainable region.

Five Jurisdictions Work Together to Manage Flooding on San Francisquito Creek

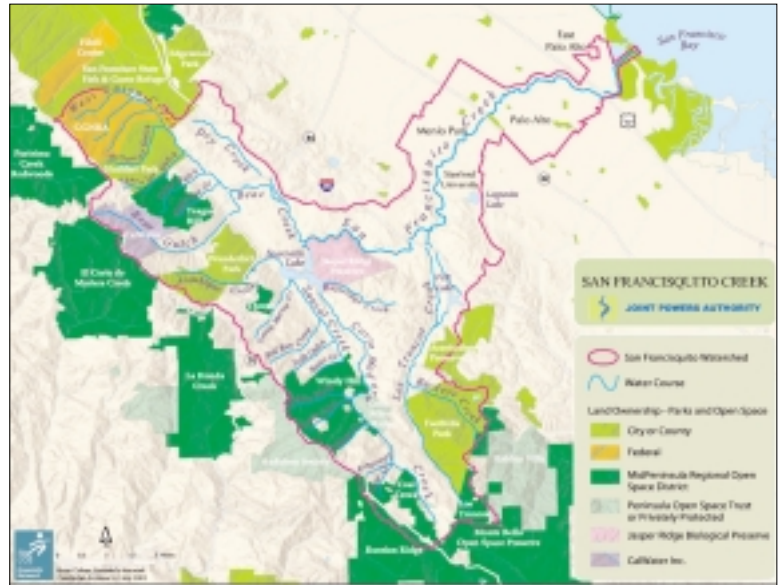
The decisive event that stimulated five jurisdictions and two partners to form a voluntary Joint Powers Authority focused on the San Francisquito Creek was a flood that took place in February 1998. Record flooding from the creek hit the heavily urbanized area between El Camino Real and the San Francisco Bay, spilling water onto 11,000 acres of city streets and homes in Palo Alto, Menlo Park and East Palo Alto. The deluge caused nearly \$27 million in damage, flooded over 1,700 homes and businesses and shut down Highway 101.

In addition, the San Francisquito Creek watershed is home to one of the last remaining, and likely the healthiest, population of native steelhead trout in the South Bay. The steelhead are protected under the Endangered Species Act and rely on migration for reproduction. Thus, the migration corridor must be conserved when conducting any project.

The San Francisquito Creek Joint Powers Authority (JPA) is an agency empowered to protect and maintain the 14-mile San Francisquito Creek and its 45-square-mile watershed. The JPA's most significant task is the development of a long-term flood management project for the creek. Other purposes of the JPA are to facilitate and perform bank stabilization, channel clearing, and other creek maintenance; and to manage joint interests of member agencies with regard to watershed issues. Members of the JPA include the City of Palo Alto, City of Menlo Park, City of East Palo Alto, Santa Clara Valley Water District, the San Mateo County Flood Control District and two associate members: Stanford University and the San Francisquito Watershed Council.

To date, the Authority has completed one capital improvement project and secured funding for four projects that are currently under way:

- The JPA coordinated a \$3.5 million levee project, finished in December 2002. The project restored levees and floodwalls in Palo Alto and East Palo Alto to their original 1958 design height.
- The JPA received a \$200,000 grant to conduct a watershed-wide Sediment Reduction Plan. This planning project required cooperative agreements with eight jurisdictions and will be completed in March 2004.
- In 2003, the JPA secured a federal project providing up to \$7 million for construction of work along the lower reach of the creek from Highway 101 to the Bay. The Army Corps of Engineers—San Francisco District Office will conduct the project.
- In 2002, the JPA partnered with creekside landowners to initiate a series of “demonstration” projects to stabilize the degrading banks along the creek. The JPA secured two grants totaling \$416,580 for these projects.



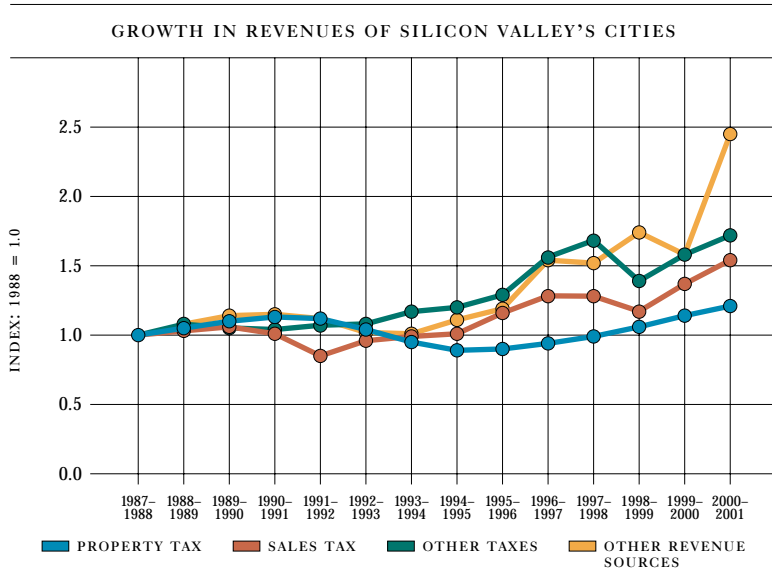
Source: Map courtesy of the San Francisquito Creek Joint Powers Authority



Source: Photo courtesy of John Todd

GOAL 17: MATCHING RESOURCES AND RESPONSIBILITY Valley cities, counties and other public agencies have reliable, sufficient revenue to provide basic local and regional public services.

Much of Local Government Revenue Increasingly Volatile



Source: California State Controller

WHY IS THIS IMPORTANT?

To maintain service levels and respond to a changing environment, local government revenue must be reliable. City government revenues come from locally generated property taxes, sales taxes, and other taxes and revenue sources (e.g., transportation taxes, transient occupancy taxes, business license taxes, other non-property taxes and franchise fees). Property tax is the most stable source of city government revenue, fluctuating much less over time than do sales and other taxes and revenue sources. Since only about 7% of city revenue derives from property taxes and approximately 25% comes from revenues not generated locally (e.g., intergovernmental transfers from the state and federal governments), the role of sales and other tax and revenue sources account for about two-thirds of overall city revenues and thus are critical in determining the overall volatility of local government funding.

HOW ARE WE DOING?

Sales and other tax and revenue sources have become increasingly volatile over the last decade, while property taxes have remained comparatively stable. During the 1990–1991 to the 2000–2001 period, sales tax revenues jumped by as much as 20% and fell by as much as 14% from one year to the next. Similarly, revenues from other taxes during this period experienced a one-year jump of as much as 27% and a one-year drop of as much as 29%. Other locally generated revenue sources jumped as much as 87% and fell as much as 16% from one year to the next during this period. In contrast, property tax revenue never rose or fell more than 8% in any year from 1990–1991 to 2000–2001.

Although data for the last two years are not yet published, consultations with city officials indicate that the pattern of increasing volatility has continued.

Appendix A: Data Sources

SPECIAL ANALYSIS

WHERE THE JOBS ARE: OUR REGION'S OCCUPATIONAL STRUCTURE

Joint Venture: Silicon Valley Network developed the special analysis in conjunction with members of the *2004 Index* Adviser group and members of Joint Venture's Board of Directors. Joint Venture has defined occupational clusters for the Silicon Valley region, using location quotients, employment growth rates, industry staffing patterns and qualitative input from the special analysis advisers. Appendix B provides detail on the Standard Occupational Classification (SOC) codes used to define each cluster. More information about the SOC classification system can be found on the Bureau of Labor Statistics website at the following address: <http://stats.bls.gov/soc/home.htm>.

Data for San Mateo and Santa Clara counties are combined for the purposes of the *2004 Index* and were provided by the Labor Market Information group of the California Employment Development Department. Comparable U.S. data were obtained from the U.S. Bureau of Labor Statistics website at the following address: <http://www.bls.gov/oes/home.htm>.

Occupational data is obtained through annual surveys conducted by the Occupational Employment Statistics (OES) program of the BLS, which collects data for a sample of businesses nationwide. In 2002, the OES program increased the number of businesses included in the OES survey and averaged data from prior survey years in the 2002 sample. From 2002 forward, the OES program will be conducted on a biannual basis.

Occupational wages for Silicon Valley are estimates based on the average of wages (weighted by employment) for occupations in San Mateo and Santa Clara counties. These wage estimates are specifically sampled from the Silicon Valley region. Occupational wage estimates include base pay only and do not include pay derived from bonuses, stock options or other benefits.

REGIONAL TREND INDICATORS

RATE OF REGIONAL JOB LOSS SLOWS

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. It 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 2003.

LED BY BIOMEDICAL, FIVE SILICON VALLEY INDUSTRY CLUSTERS GROW IN EMPLOYMENT CONCENTRATION RELATIVE TO THE NATION

Silicon Valley employment data are provided by the California Employment Development Department and are from Joint Venture: Silicon Valley Network's unique data set. Corresponding national-level employment data are provided by the U.S. Bureau of Labor Statistics, Covered Employment and Wages (CEW) series. Average quarterly growth rate is the rate of change in employment over the eight quarters of years 2001 to 2002.

JOBS LOST ACROSS REGION'S CLUSTERS, JOBS GAINED IN HEALTH SERVICES

Cluster and other industry employment estimates are drawn from the EDD/Joint Venture: Silicon Valley Network data set and are based on the North American Industry Classification System (NAICS). Appendix B provides NAICS-based definitions for each of Silicon Valley's industry clusters.

AVERAGE PAY RETURNS TO 1998 LEVEL

Data are derived from the EDD/Joint Venture: Silicon Valley Network data set, the Average Annual Wage Levels in Metropolitan Areas report of the Bureau of Labor Statistics, and Economy.com. This information comes from individual firm reporting of payroll amounts in compliance with unemployment insurance rules. All wages have been adjusted into 2003 dollars using the annual average of urban consumers in the San Francisco–Oakland–San Jose Consumer Price Index (CPI) 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 payroll (quarter two to quarter two) by annual average employment (quarter two to quarter two).

AVERAGE PAY DECLINES ACROSS THE CLUSTERS

Average pay per employee for each cluster was derived from the EDD/Joint Venture: Silicon Valley Network data set and is based on the North American Industry Classification System (NAICS). 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 2002. All wages have been adjusted into 2003 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.

MANY LEAVE, BUT NEW ARRIVALS KEEP REGION'S POPULATION CONSTANT

Data for the composite Population table are from the California Department of Finance E6 forms, 1992–2002.

AVAILABILITY OF COMMERCIAL SPACE RISES, RENTS DROP SUBSTANTIALLY FROM PEAK

ColliersParrish supplied the commercial space data. The vacancy rate is the share of commercial space that is vacant. The absorption rate is the percentage of space that is either vacant, unoccupied or that the tenant would like to lease. The values of average asking rents are not inflation-adjusted.

PROGRESS MEASURES FOR SILICON VALLEY 2010

NUMBER OF FAST-GROWTH COMPANIES DECLINES AGAIN

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. 2003 revenue growth is revenue

for the latest 12-month period (September to September) divided by annual average revenues for 2002. The nine gazelle companies in 2003 were Artisan Components Inc.; Cepheid Inc.; CIPHERGEN Biosystems Inc.; eBay Inc.; Intuitive Surgical Inc.; Netscreen Technologies Inc.; Socket Communications Inc.; Supportsoft Inc.; and WebEx Communications Inc.

VENTURE CAPITAL INVESTMENT SLOWS, SHIFTS TO BIOTECHNOLOGY AND MEDICAL DEVICES

Data are provided by the PricewaterhouseCoopers/Thomson Venture Economics/National Venture Capital Association MoneyTree™ 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 2003 venture capital funding level is an estimate based on the first three quarters of data and historical growth patterns in the fourth quarter.

REGIONAL PER CAPITA INCOME DECLINING, THOUGH MORE SLOWLY

Data are from the U.S. Census Bureau and Economy.com. Data for Santa Clara and San Mateo counties are inflation-adjusted 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.

VALUE ADDED PER EMPLOYEE CONTINUES TO GROW

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. Value added per employee is the sum of value added for Santa Clara and San Mateo counties, divided by total employment non-farm for each county. Value added per employee in the driving industry clusters is the sum of cluster employment for the region divided by total regional employment, non-farm. All figures are inflation-adjusted in 2003 dollars.

With regard to temporary employees: At the industry level, value added is shared between personnel supply companies and the companies that utilize the labor services of those contracted employees.

INCOME DROPS MORE FOR HIGH-INCOME THAN LOW-INCOME HOUSEHOLDS

Data are from the March Supplement of the Census Bureau's Current Population Survey (CPS). 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 1990 Census. Income values are inflation-adjusted and reported in 2003 dollars.

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. All incomes are adjusted for inflation using the San Francisco–Oakland–San Jose CPI.

Though the data presented are the best available at the regional level, data are derived from an annual sample of as few as 200 households. Household incomes are averaged over a three-year period to increase the reliability of reported income estimates. Data are more useful for tracking long-term trends than for noting specific year-to-year movements. Over time, specific households move up and down the distribution. Data on this "mobility" are not available at the regional level.

For an in-depth analysis of income distribution in 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 PPIC provided national household income statistics.

RAPID GROWTH IN COMMUNITY COLLEGE CERTIFICATES AWARDED, PARTICULARLY IN THE HEALTH FIELD

The Community Colleges included as part of Silicon Valley are College of San Mateo, DeAnza, Evergreen, Foothill, Gavilan, Mission, Ohlone, San Jose City College, and West Valley. The California Community Colleges Chancellor's Office provided the data. Student responses to the enrollment questionnaire are self-reported.

CHILD CARE COSTS DECLINE, BUT MEDIAN INCOME FALLS FASTER

The Community Child Care Council of Santa Clara County (4C Council) provided child care cost data as well as vacancy data and total number of spaces. Data are provided for the years 2002 and 2003. Cost data for 1999 and 2000 were unavailable.

The income distribution data came from the U.S. Census Bureau and was analyzed by Collaborative Economics. For more details on this methodology, please refer to the appendix for the Income distribution indicator on page 18 of the *2004 Index*.

SOUTH BAY WATER QUALITY AFFECTED BY PCBS AND MERCURY

Data for this indicator are provided by the San Francisco Estuary Institute's (SFEI) Regional Monitoring Program (RMP). The RMP publishes the "Pulse of the Estuary," which presents an annual summary of their contamination monitoring work in the Bay (see <http://www.sfei.org/rmp/pulse/pulse2003.pdf>). The RMP analyzes Bay water and sediment as well as bird and fish tissue for contaminant concentrations. Please visit their web site at www.sfei.org. Polychlorinated biphenyls (PCBs) are mixtures of synthetic organic chemicals found in substances such as paints, rubber, and pigments and dyes used in commercial applications up until 1977, when the U.S. Congress passed legislation to disallow production of them. Average PCB concentrations in water from South San Francisco Bay (Redwood Creek, Dumbarton Bridge, Coyote Creek and San Jose) for summer sampling 1994–2001 in parts per trillion. PCB concentrations are the dissolved + the particulate.

Average Hg (mercury) concentrations in water from South San Francisco Bay (Redwood Creek, Dumbarton Bridge, Coyote Creek, South Bay, Sunnyvale and San Jose) for summer sampling 1994–2001 in parts per trillion. Hg concentrations are the dissolved + the particulate fraction.

AIR QUALITY MIXED, WITH OZONE RISING AND PARTICULATES DROPPING

The Bay Area Air Quality Management District takes daily measurements of air quality at air monitoring stations in Silicon Valley. The indicator reflects the number of days that at least one of these stations exceeded the state

one-hour standard for ozone and the 24-hour standard for particulates. Stations include Fremont, Mountain View, Los Gatos, San Jose 4th Street, Gilroy, Redwood City, San Martin and San Jose East. PM10 is particulate matter 10 microns or less in diameter, so it includes both “coarse” (10 microns or less but greater than 2.5 microns) and “fine” (2.5 microns or less) particulate matter.

25% OF REGION IS PERMANENTLY PROTECTED OPEN SPACE, WITH 2/3 PUBLICLY ACCESSIBLE

Data are from GreenInfo Network 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. Data include lands owned by the public and lands in private ownership protected by conservation easement. Not included are lands that are protected as open space solely through local general plans and zoning regulations. Parcels of open-space land less than five acres are not included. “Publicly accessible open space” is defined as lands that are open to the public with no special permit required.

CITIES CONTINUE TO REDUCE SPRAWL THROUGH EFFICIENT LAND USE

Land-use data for cities in Silicon Valley are provided by city planning and housing departments as well as city managers. Joint Venture and Collaborative Economics compiled and analyzed data. Participating cities include Atherton, Belmont, Campbell, Cupertino, East Palo Alto, Foster City, Fremont, Gilroy, Hillsborough, Los Altos, Los Gatos, Menlo Park, Milpitas, Monte Sereno, Morgan Hill, Mountain View, Newark, Palo Alto, Portola Valley, Redwood City, San Carlos, San Jose, San Mateo, Santa Clara, Saratoga, Scotts Valley, Sunnyvale, Union City and Woodside. The counties of Santa Clara and San Mateo including unincorporated sections of each county are also included. Data are for fiscal year 2003 (July 2002–June 2003). Data on urban service area were provided by California Department of Conservation, Farmland Mapping and Monitoring Program.

Average units per acre for existing residential development is calculated for Santa Clara County by dividing the total housing units by the total acres of residential development. The Association of Bay Area Governments and the California Department of Finance provided data.

ABOUT HALF OF NEW HOUSING AND NEW JOBS LOCATED 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 jobs near transit is a calculation that assumes differing rates of job creation per square foot of new commercial, R&D, office and light industrial space located near transit. The number of new housing units within one-quarter mile of a major transit corridor is reported directly for each of the cities participating in the survey. Places within one-quarter mile of transit are considered “walkable,” within a 5- to 10-minute time frame by the average person.

FREEWAY CONGESTION WELL BELOW PEAK

Data are from the Valley Transportation Authority, Congestion Management Program. Data are for the afternoon peak period.

NEW HOUSING APPROVALS AND PERCENTAGE AFFORDABLE CONTINUE TO DROP

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.

RENTS DECLINE FASTER THAN INCOMES, BUT HOUSING AFFORDABILITY REMAINS LOW

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 2003 estimate is based on 2003 data as of September. 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. The 2003 estimate is based on third-quarter numbers.

CHILDREN WHO HAVE ATTENDED PRESCHOOL ARE SIGNIFICANTLY MORE PREPARED FOR KINDERGARTEN THAN THOSE WHO HAVE NOT

Data were provided by the Peninsula Partnership for Children, Youth and Families, an initiative of the Peninsula Community Foundation and San Mateo County in partnership with Applied Survey Research kindergarten teachers evaluated a representative sample of 467 entering students in 2003 on five dimensions of school readiness.

Applied Survey Research in San Jose conducted survey and data analysis. Data are significantly different between groups for each of the five categories. The units of analysis are different in this year’s chart from 2002; free or reduced-lunch eligibility status at the individual child level is no longer available. Instead of presenting “School Readiness Scores of Low Income Children, by Presence/History of Preschool Experience,” the data now represents “School Readiness Scores of Children in Low Income Schools, by Presence/History of Preschool Experience.”

There are enough children included in the analysis to detect significantly higher observation scores for children with preschool experience. For more information about the survey, see the Peninsula Partnership for Children, Youth and Families website: www.pcf.org/peninsula_partnership.

54% OF THIRD GRADERS READING BELOW NATIONAL MEDIAN, WIDE DISPARITIES AMONG SCHOOLS

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; students’ scores are compared to national norms and do not reflect absolute achievement. The map for this indicator was developed using GIS software and shows the percentage of students at Silicon Valley elementary schools scoring at or above the national median. Schools in the lowest quartile had between 0% and 31% of third graders scoring below the national median. Schools in the middle quartiles had between 32% and 68% of students scoring at or above the national median. Schools in the highest quartile had more than 68% of test takers scoring at or above the national median.

INTERMEDIATE ALGEBRA ENROLLMENT SHOWS DISPARITY ACROSS SCHOOLS

Data are from the California Department of Education for public schools in Silicon Valley. Data are the share of 10th- and 11th-grade students enrolled in Intermediate Algebra. Students in grades 9 and 10 are included in the dividend if they are taking the courses, in order not to penalize schools or districts that offer these courses below grade 11. The map displays the percentage of students enrolled in Intermediate Algebra for Silicon Valley high schools.

HIGH SCHOOL GRADUATION RATE AND SHARE OF STUDENTS MEETING UC/CSU REQUIREMENTS INCREASE

Graduation rates are the number of graduates divided by enrollment four years prior. Rates of UC/CSU completion are the number of graduates meeting UC/CSU coursework requirements divided by ninth grade enrollment four years prior. Data for the 2002–2003 school year were provided by Silicon Valley school districts and were compiled by Collaborative Economics. In 2004, two entities that did not provide data were left out of the analysis (James Logan High and La Honda School District). Graduation and UC/CSU numbers for East Side Union High District were kept constant from 2001–2002. East Side Union High is now part of the CSIS system and does not have data available until February. All CBEDS data are not finalized until February of the following year.

TRANSIT RIDERSHIP AND HOURS OF SERVICE CONTINUE TO DECLINE

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 SamTrans, Valley Transportation Authority, Altamont Commuter Express and Caltrain. Population estimates were obtained from Economy.com

Monthly estimates were made for September through December of 2003 using a rolling average of the past three years for the January–August share of ridership. Revenue hours are the amount of time that a bus or train is in service. The sum of revenue hours across the region aggregates data provided by SamTrans, Valley Transportation Authority, Altamont Commuter Express and Caltrain. Annual Caltrain figures for 2000 and 2003 were estimated based on the first six months of service. Annual SamTrans figures for 2003 were estimated based on the first six months of service.

HIGHER CHILD IMMUNIZATION RATE, BUT MORE LOW-WEIGHT BIRTHS AND MANY OVERWEIGHT ADULTS

Data on low-birth-weight infants are from the California Department of Health Services, Vital Statistics Data Tables: www.dhs.ca.gov/hisp/chs/OHIR/vssdata/tables.htm. Data on child immunizations are from the Centers for Disease Control. Children immunized with the 4:3:1 series immunizations between the ages of 18 and 35 months are included in the results.

Data for obesity are from the Behavioral Risk Factor Survey conducted by Santa Clara County in 2000: <http://www.scephd.org/scc/assets/docs/133913BehavioralRiskFactorSurvey2000.pdf>

U.S. data came from the Centers for Disease Control (CDC):

http://www.cdc.gov/nccdphp/dnpa/obesity/trend/prev_char.htm

State data also came from the CDC: http://www.cdc.gov/nccdphp/dnpa/obesity/trend/prev_reg.htm. Data are normalized using 2000 national population standard to compare geographic regions.

VIOLENT CRIME AND CHILD ABUSE CASES DROP, BUT JUVENILE FELONY ARRESTS RISE

Violent crime data are from the FBI's Uniform Crime Reports. Arrest data are from the California Department of Justice, "Juvenile Felony Reports." Violent offenses include homicide, forcible rape, assault and kidnapping. Child maltreatment data are from the Child Welfare Services 2002 Quarter 4 Extract, downloaded from the Center for Social Services Research at the University of California at Berkeley. Population data come from Claritas Inc. population projections based on the 2000 U.S. Census.

FUNDING TO ARTS ORGANIZATIONS DECLINES SLIGHTLY, REVENUE MIX CHANGES

Data for this indicator were provided by 17 of Silicon Valley's arts and cultural organizations. The list of 20 arts and cultural organizations was compiled by the Silicon Valley Arts Council and includes the largest arts and cultural organizations based on budget size. Collaborative Economics compiled the data. Twenty-two arts and culture organizations were surveyed; 17 responded. The survey respondents were American Musical Theatre, Arts Council Silicon Valley, Ballet San Jose Silicon Valley, Children's Discovery Museum, Children's Musical Theatre San Jose, Community School of Music & Arts, Cultural Initiatives Silicon Valley, History San Jose, Lively Arts at Stanford, Montalvo Center for the Arts, Opera San Jose, Palo Alto Art Center, San Jose Jazz Society, San Jose Repertory Theatre, Stanford Jazz Workshop, Tech Museum of Innovation and Theatreworks.

VOTER REGISTRATION REACHES NEW HIGH, NOW ABOVE CALIFORNIA AVERAGE

Data are from the California Secretary of State, Elections and Voter Information Division. Figures for voting participation in the October 2003 election are taken from the California Secretary of State's informal report of the ballots cast on whether or not to recall the governor. The eligible population is determined by the Secretary of State using census data provided by the California Department of Finance.

FIVE JURISDICTIONS WORK TOGETHER TO MANAGE FLOODING ON SAN FRANCISQUITO CREEK

Information for this indicator was provided by the San Francisquito Creek Joint Powers Authority (JPA). The JPA provided the map used in the write-up. Photo of San Francisquito creek is provided courtesy of John Todd.

MUCH OF LOCAL GOVERNMENT REVENUE INCREASINGLY VOLATILE

Data are from the State of California Cities Annual Report, Fiscal Years 1987–1988 to 2000–2001. 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 sale of bonds), voter-approved indebtedness property tax, and sales of bonds and notes. The "other taxes" and "other revenue" include revenue sources such as sales and use tax, transportation taxes, transient lodging taxes, business license fees, other non-property taxes and franchise taxes.

Appendix B: Definitions

INDUSTRY CLUSTERS

*Computer and Communications
Hardware Manufacturing*

334111*	Electronic Computer Manufacturing
334112	Computer Storage Device Manufacturing
334113	Computer Terminal Manufacturing
334119	Other Computer Peripheral Equipment Manufacturing
334210	Telephone Apparatus Manufacturing
334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing
334290	Other Communications Equipment Manufacturing
334511	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
334413	Semiconductor and Related Device Manufacturing
334513	Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables
334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals
334519	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
334419	Other Electronic Component Manufacturing
3359	Other Electrical Equipment and Component Manufacturing

Software

334611	Software Reproducing
511210	Software Publishers
518	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%)
62151	Medical and Diagnostic Laboratories

Innovation Services

523910	Miscellaneous Intermediation
5411	Legal Services
5412	Accounting, Tax Preparation, Bookkeeping and Payroll Services
54133	Engineering Services
541370	Surveying and Mapping (except Geophysical)
541380	Testing Laboratories
541611	Administrative Management and General Management Consulting Services
541612	Human Resources and Executive Search 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%)

Creative Services

54131	Architectural Services
54132	Landscape Architecture Services
54134	Drafting Services
541410	Interior Design Services
541420	Industrial Design Services
541430	Graphic Design Services
541490	Other Specialized Design Services
541613	Marketing Consulting Services
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
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SILICON VALLEY

Where possible, indicator data were collected for the economic region of Silicon Valley. This region includes all of Santa Clara County as its core and extends into various adjacent areas (ZIP-code-defined) of Alameda, San Mateo and Santa Cruz counties:

CITY ZIP CODE

Santa Clara County (all)

Campbell	95008–09, 11
Cupertino	95014–15
Gilroy	95020–21
Los Altos	94020, 23–24
Los Altos Hills	94022, 24
Los Gatos	95030–33
Milpitas	95035–36
Monte Sereno	95030
Morgan Hill	95037–38
Mtn. View	94035, 39–43
Palo Alto	94301–10
San Jose	95101–03, 06–42, 48, 50–61, 64, 70–73, 90–96
Santa Clara	95050–56
Saratoga	95070–71
Sunnyvale	94085–90

Alameda County

Fremont	94536–39, 55
Newark	94560
Union City	94587

San Mateo County

Atherton	94027
Belmont	94002–03
East Palo Alto	94303
Foster City	94404
Menlo Park	94025–29
Portola Valley	94028
Redwood City	94059, 61–65
San Carlos	94070–71
San Mateo	94401–09, 97
Woodside	94062

Santa Cruz County

Scotts Valley	95060, 66–67
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*The numbers correspond to North American Industry Classification System (NAICS) codes.

OCCUPATIONAL CLUSTERS

Professional Services

- 11-1021* General and Operations Managers
- 11-1031 Legislators
- 11-3021 Computer and Information Systems Managers
- 11-3031 Financial Managers
- 11-3040 Human Resources Managers
- 11-9141 Property, Real Estate, and Community Association Managers
- 13-2011 Accountants and Auditors
- 13-2051 Financial Analysts
- 13-2052 Personal Financial Advisors
- 13-2053 Insurance Underwriters
- 13-2061 Financial Examiners
- 15-1041 Computer Support Specialists
- 15-1061 Database Administrators
- 15-1071 Network and Computer Systems Administrators
- 17-2051 Civil Engineers
- 17-2081 Environmental Engineers
- 17-3011 Architectural and Civil Drafters
- 17-3012 Electrical and Electronics Drafters
- 17-3013 Mechanical Drafters
- 17-3022 Civil Engineering Technicians
- 17-3031 Surveying and Mapping Technicians
- 23-1011 Lawyers
- 23-2011 Paralegals and Legal Assistants
- 23-2093 Title Examiners, Abstractors, and Searchers
- 45-1011 First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers

Creative Services

- 17-1011 Architects, Except Landscape and Naval
- 27-0000 Arts, Design, Entertainment, Sports, and Media Occupations

Health and Human Services

- 11-9111 Medical and Health Services Managers
- 11-9151 Social and Community Service Managers
- 17-2111 Health and Safety Engineers, Except Mining Safety Engineers and Inspectors
- 19-3031 Clinical, Counseling, and School Psychologists
- 21-1012 Educational, Vocational, and School Counselors
- 21-1021 Child, Family, and School Social Workers
- 21-1022 Medical and Public Health Social Workers
- 21-1093 Social and Human Service Assistants
- 21-2011 Clergy
- 29-0000 Healthcare Practitioner and Technical Occupations
- 31-0000 Healthcare Support Occupations

Education and Training

- 11-9031 Education Administrators, Preschool and Child Care Center/Program
- 11-9032 Education Administrators, Elementary and Secondary School
- 13-1073 Training and Development Specialists
- 21-1091 Health Educators
- 25-0000 Education, Training, and Library Occupations

Innovation Research and Development

- 11-9041 Engineering Managers
- 11-9121 Natural Sciences Managers
- 15-1011 Computer and Information Scientists, Research
- 15-1031 Computer Software Engineers, Applications
- 15-1032 Computer Software Engineers, Systems Software
- 15-1051 Computer Systems Analysts
- 15-1081 Network Systems and Data Communications Analysts
- 15-2031 Operations Research Analysts
- 15-2041 Statisticians
- 17-2061 Computer Hardware Engineers
- 17-2071 Electrical Engineers
- 17-2072 Electronics Engineers, Except Computer
- 17-2141 Mechanical Engineers
- 17-3023 Electrical and Electronic Engineering Technicians
- 19-1021 Biochemists and Biophysicists
- 19-1042 Medical Scientists, Except Epidemiologists
- 19-3011 Economists
- 19-3021 Market Research Analysts
- 19-4021 Biological Technicians
- 19-4091 Environmental Science and Protection Technicians, Including Health

Sales, Marketing and Distribution

- 11-2011 Advertising and Promotions Managers
- 11-2021 Marketing Managers
- 11-2022 Sales Managers
- 11-2031 Public Relations Managers
- 11-3071 Transportation, Storage, and Distribution Managers
- 13-1022 Wholesale and Retail Buyers, Except Farm Products
- 41-0000 Sales and Related Occupations
- 53-0000 Transportation and Material Moving Occupations

Administration

- 11-3011 Administrative Services Managers
- 13-1031 Claims Adjusters, Examiners, and Investigators
- 13-1051 Cost Estimators
- 13-1071 Employment, Recruitment, and Placement Specialists
- 13-1072 Compensation, Benefits, and Job Analysis Specialists
- 13-1111 Management Analysts

- 13-1121 Meeting and Convention Planners
- 13-2021 Appraisers and Assessors of Real Estate
- 13-2031 Budget Analysts
- 13-2041 Credit Analysts
- 13-2072 Loan Officers
- 43-0000 Office and Administrative Support Occupations

Personal Services

- 11-9051 Food Service Managers
- 33-9032 Security Guards
- 35-0000 Food Preparation and Serving Related Occupations
- 37-0000 Building and Grounds Cleaning and Maintenance Occupations
- 39-0000 Personal Care and Service Occupations

Headquarters

- 11-1011 Chief Executives
- 21-2021 Directors, Religious Activities and Education
- 43-6011 Executive Secretaries and Administrative Assistants

Technical Production

- 17-3026 Industrial Engineering Technicians
- 11-3051 Industrial Production Managers
- 49-9041 Industrial Machinery Mechanics
- 51-2022 Electrical and Electronic Equipment Assemblers
- 51-2023 Electromechanical Equipment Assemblers
- 51-4011 Computer-Controlled Machine Tool Operators, Metal and Plastic
- 51-4012 Numerical Tool and Process Control Programmers
- 51-4031 Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic
- 51-4032 Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- 51-4033 Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- 51-4034 Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- 51-4041 Machinists

Installation, Repair and Production

- 11-3061 Purchasing Managers
- 11-9021 Construction Managers
- 17-3026 Industrial Engineering Technicians
- 47-0000 Construction and Extraction Occupations
- 49-0000 Installation, Maintenance, and Repair Occupations Except Industrial Machinery Mechanics
- 51-0000 Production Occupations (except those listed in Technical Production)

*The numbers correspond to Standard Occupational Classification System (SOC) codes.

Acknowledgments

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

Altamont Commuter Express	Peninsula Community Foundation
Applied Survey Research	Peninsula Open Space Trust
The Bay Institute	Peninsula Partnership for Children, Youth and Families
California Association of Realtors	PricewaterhouseCoopers LLP
California Community Colleges Chancellor's Office	Public Policy Institute of California
California Department of Conservation	RealFacts
California Department of Education	SamTrans
California Department of Finance	San Francisco Bay Area Open Space Council
California Department of Fish and Game	San Francisco Bay Conservation and Development Commission
California Department of Health Services	San Francisco Estuary Institute
California Department of Justice	San Francisco Creek Joint Powers Authority
California Employment Development Department	San Mateo County Office of Education
California Secretary of State	Santa Clara County Department of Public Health
California State Controller's Office	Santa Clara County Office of Education
Center for Social Services Research	Silicon Valley Environmental Partnership
Centers for Disease Control	Silicon Valley School Districts
Child Welfare Research Center	Silicon Valley's Arts and Cultural Organizations
Child Welfare Services	Standard and Poor's
City Managers of Silicon Valley	Thomson Venture Economics
City Planning and Housing Departments of Silicon Valley	U.S. Bureau of Labor Statistics
Colliers International	U.S. Census Bureau
Community Child Care Council of Santa Clara County	U.S. Department of Housing and Urban Development
Economy.com	U.S. Department of Labor
Federal Bureau of Investigation	U.S. Environmental Protection Agency
GreenInfo Network	Valley Transportation Authority
National Venture Capital Association	

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