Acknowledgements

INDEX BOARD OF ADVISORS
Jeanette Garrett, Bank of America
Judith Larson, Dataquest
Steve Levy, Center for the Continuing Study of the California Economy
Ed McCracken, Silicon Graphics
Tapan Munroe, PG&E
AnnaLee Saxenian, UC-Berkeley
Tim Sturgeon, Berkeley Roundtable on the International Economy
John Vasconcellos, California Assembly

PREPARED BY
Collaborative Economics
Doug Henton
Indrani Kowlessar
John Melville
Brendan Rawson
Kim Walesh

Special thanks to the following organizations that contributed expertise:
Arts Council of Santa Clara County
Bay Area Council
Bay Area Air Quality Management District
California Department of Education
California Department of Health Services
California Employment Development Department
Caltrans
Children Now
Cornish and Carey Commercial/Oncor International
Field Research Corporation
Greenbelt Alliance
San Jose Arts Roundtable
San Jose Mercury News
Santa Clara County Environmental Resources Agency
Santa Clara County Office of Budget and Analysis
Santa Clara County Pollution Prevention Program
Silicon Valley Environmental Partnership
Smart Valley
21st Century Education Initiative
U.S. Department of Commerce Office of Trade and Economic Analysis
and
Linda Bagience, Environmental Partnership
Joint Venture
Joint Venture is a dynamic new model of regional rejuvenation. Our vision is to build a community collaborating to compete globally. We bring people together from business, government, education, and the community to act on regional issues affecting economic vitality and quality of life.

Board of Directors
Co-Chairpersons
Mayor Susan Hammer
City of San Jose
Lew Platt
Hewlett-Packard Co.

President/CEO
Becky Morgan

Gary Burke
Santa Clara Valley Manufacturing Group
David Coulter
Bank of America
Lee Cunningham
Morgan Hill Unified School District
Tommy Fulcher, Jr.
Economic & Social Opportunities
Hon. Ron Gonzales
County of Santa Clara
Judith Hamilton
Jay Harris
San Jose Mercury News
Tom Hayes
Applied Materials, Inc.
Pat Hill Hubbard
American Electronics Association
Lisa Kalmbach
Kamman & Broad, South Bay, Inc.
W. Keith Kennedy
Watkins-Johnson Company
John Kennett
Pease Printing
Hon. Barbara Koppel
City of Cupertino

Tom Lewcock
City of Sunnyvale
Paul Locatelli, S.J.
Santa Clara University
Ed McCracken
Silicon Graphics, Inc.
William Miller
Stanford University
James Morgan
Applied Materials Inc.
John Neece
Building & Construction Trades Council
Joseph Parisi
Therma
J. Michael Patterson
Price Waterhouse
Raymond Ruiz
Community Development Resources, Inc.
Allan Seid
Asian Pacific American Coalition, Inc.
John Sobrato, Sr.
Sobrato Development Companies
Steve Tedesco
San Jose Metropolitan Chamber of Commerce
Hon. John Vasconcellos
California State Assembly
WHY THE INDEX OF SILICON VALLEY?
Joint Venture's second annual Index of Silicon Valley provides a set of indicators tracking our region's economy and quality of life. The Index is an ongoing effort to track progress toward a 21st century community. The vision of a 21st century community, first outlined in the Blueprint for a 21st Century Community (June 1993), is a region that successfully connects its economy and quality of life.

Joint Venture developed the Index:
1. to provide a reliable source of objective information about the economy and quality of life in Silicon Valley, and
2. to serve as a catalyst for others to work with Joint Venture and independently to continue to improve all aspects of the Silicon Valley community.

WHAT IS A GOOD INDICATOR?
Indicators are measurements that tell us how we are doing: whether we are going up or down; forward or backward; getting better, worse, or staying the same. Good indicators meet the following criteria:

1. They are bellwethers that reflect fundamentals of long-term community health;
2. They can be understood and accepted by the community;
3. They have interest and appeal for use by the media;
4. They are statistically measurable on a frequent basis.

The 31 indicators that follow were chosen in consultation with the Joint Venture Board and an Advisory Board of Bay Area economists. Eighteen are indicators which first appeared in the 1995 inaugural Index of Silicon Valley. Thirteen are new this year.

HOW TO USE THE INDEX
We hope the Index of Silicon Valley will be used:

1. to increase understanding among decision makers and the public about how the Valley is doing,
2. to track progress toward the vision of a 21st century community, and
3. to identify critical issues that need to be addressed, by Joint Venture and others.

WHAT IS SILICON VALLEY?
Joint Venture defines Silicon Valley as Santa Clara County plus adjacent parts of San Mateo (to Highway 92), Alameda (to Fremont/Newark), and Santa Cruz (to Scotts Valley) counties. This definition reflects the geographic location patterns of the Valley's driving industry clusters and its workforce.

With a population of over 2 million people, this region has more residents than 18 U.S. states.

The indicators reflect this definition of Silicon Valley, except where noted as Santa Clara County.

WHAT IS AN INDUSTRY CLUSTER?
Several of the indicators relate to "industry clusters." An industry cluster:

1. is a geographic concentration of interdependent, internationally competitive firms in related industries,
2. represents talent and technology capabilities that are more specialized in Silicon Valley than in other regions, and
3. includes a significant number of companies that sell their products and services outside the region.

The driving clusters in Silicon Valley are computers/communications, semiconductors, software, bioscience, defense/ space, environment, innovation services, and professional services. Appendix B details the specific subsectors making up each cluster.

Healthy, outward-oriented industry clusters are a critical prerequisite for a healthy economy. Clusters are dynamic; over time, existing clusters will transform and new clusters will develop from our region's talent and technology base.
# Economic Indicators

## INDEX HIGHLIGHTS

### JOB QUANTITY
- Silicon Valley Gains 46,000 Jobs Since 1992
- Job Growth Led by Software, Semiconductors, Services
- Jobs in Semiconductor Equipment Grow Faster than Jobs in Semiconductor Devices
- Growing Number of Single-Employee Businesses Indicates Rising Self Employment

### JOB QUALITY
- Software Jobs Not Just for Engineers
- Average Real Wages Rise 2.6% Since 1992
- Software and Semiconductors Lead Average Wages
- Women, Minorities Progressing Toward High-End Occupations

### BUSINESS VITALITY
- Valley Drives One-Third of California Exports
- Value Added Per Worker Up 50%
- Venture Capital Increases 48%, 1993-95
- IPO's Set the Stage for Gazelle Growth
- Valley R&D Two Times National Average
- Vacancy Rates Drop to 10-Year Low
- Business Optimism At All-Time High

## Quality-of-Life Indicators

### EDUCATION
- High School Drop-Out Rates Up Slightly
- Student Mastery of Basic Skills Above State Average But Less Than 50% Strongly Proficient
- Small Percentage of Schools Connected to the Internet

### ENVIRONMENT
- Bad Air Days Trend Down, But Turn Up in 1995
- Toxic Chemical Releases Reduced by Two-Thirds
- Waste Disposal Down, Recycling Up
- Valley Open Space Maintained

### INFRASTRUCTURE
- Improvement in Housing Affordability Slows, Taxes Affect Comparative Costs
- Vehicle Delays Declining
- Public Transit Ridership Levels Off

### CIVIC ENGAGEMENT
- Arts Contributions Grow, Clients Grow Faster
- Widest Gap Between Personal Income, Giving

### CHILDREN AND YOUTH
- Low-Birth-Weight Infants Increase
- Poverty Affects 53,000 Children
- Santa Clara County Lowest Child Support Enforcement
- Youth Crime Escalates; Overall Crime Rate Remains Low

## APPENDIX A: DATA SOURCES

## APPENDIX B: DEFINITIONS
Economy Rebounds, Long-Term Community Challenges Remain

The indicators tell a tale of a Valley with a rebounding economy, progress on some quality of life measures, and long-term challenges concerning education and youth. The Valley has clearly recovered from its unprecedented downturn in 1991-92. Mixed progress characterizes developments in the traditional quality of life arenas—housing, transportation, environment, arts. Perhaps most disconcerting for the Valley’s long-term future, the indicators reflecting the status of Valley youth are not moving in the desired direction.

RENEWED ECONOMIC VITALITY

All of the major economic indicators for the Valley are positive: jobs are growing, wages are increasing, exports are surging, and business confidence is at an all-time high. Some highlights:

- Job gains accelerated during 1994 and 1995. Since 1992 the region has added 46,000 jobs.
- Software posted Silicon Valley’s largest job gains (7,215) and pays the highest average wages ($70,000). After years of job losses the semiconductor industry showed gains of 4,300 jobs.
- With 10% of California’s population, Silicon Valley accounts for 34% of California’s export sales.
- Value added per worker, a measure of workforce productivity, increased 50% between 1987 and 1992.
- As a percentage of revenues, Silicon Valley companies invest two times more in R&D than the national average.
- In 1995, commercial vacancy rates dropped to a ten-year low of 8.3%.
- Business confidence of Santa Clara County companies reached an all-time high of 73% in 1995.
MIXED PROGRESS ON QUALITY OF LIFE

While progress has been made in reducing vehicle delays and toxic air emissions, expansion of public transit ridership has stalled and bad air days have increased recently. While crime continues to remain below both the national and state levels, youth crime has been rising. Housing affordability continues to be low. Arts patronage, a new indicator this year, is increasing much faster than corporate or individual contributions.

Some highlights:

- After a decade of decline, the number of “bad air days” in Silicon Valley jumped to 26 exceeding the state ozone standard.
- Valley companies have reduced toxic chemical releases by two-thirds since 1987.
- Increased recycling has helped decrease solid waste disposal by 30% since 1987.
- From 1993 to 1994 vehicle delays decreased 35%; public transit ridership has leveled off.
- Forty percent of Silicon Valley residents could afford a median-priced home in 1995.
- Between 1989 and 1995, the number of clients visiting the Valley’s arts organizations increased 100%. Contributions increased 38%.

CHALLENGES RELATED TO OUR YOUTH

The Valley is challenged to prepare its youth for productive participation in the community and in the future economy. Many key indicators that have to do with children are not at acceptable levels or moving in the desired direction, raising questions about the Valley’s longer-term prospects. These indicators include drop-out rates, child poverty, low-birthweight infants and child support enforcement. Highlights:

- After a three-year decline, the Valley’s drop-out rate increased from 9% to 10% in the 1993-94 school year.
- The region’s percentage of low-birth-weight babies increased from 5.3% to 5.7%.
- Child poverty rate declined slightly, but poverty afflicts 53,000 children in Santa Clara county.
- In Santa Clara county, only 40% of children awarded child support receive some payment, the lowest enforcement rate in the Bay Area. In San Mateo, the percentage receiving payment is 58%.
- The rate of violent felony offenses per 100,000 juveniles increased from 136 in 1985 to 626 in 1994.
Silicon Valley Gains 46,000 Jobs Since 1992

**WHY IS IT IMPORTANT?**

Job growth is one of the most important indicators of economic vitality. Annual net job gains or losses are a basic measure of economic health. This indicator is from a newly developed employment series for the Silicon Valley economic region (see Introduction for definition of Silicon Valley).

**HOW ARE WE DOING?**

Silicon Valley jobs are rebounding. Job gains accelerated during 1994 and 1995. Since 1992, the region has added over 46,000 jobs, a 4.5% increase in three years. Population grew by just over 4.5% during this same period.

---

Total number of Silicon Valley jobs

Source: Employment Development Department

*Estimate.

---

Job Growth Led by Software, Semiconductors, Services

**WHY IS IT IMPORTANT?**

This indicator shows how employment in different clusters changed in the most recent annual period. A cluster is a concentration of complementary industries that generates wealth by exporting from the region. The seven clusters tracked account for 35% of all non-governmental employment (see Appendix B for a definition of each cluster).

**HOW ARE WE DOING?**

Net employment in Silicon Valley’s cluster industries increased by 14,000 from first quarter 1994 to first quarter 1995. The biggest job gains were software (7,215), professional services (6,782), semiconductors (4,300) and innovation/manufacturing related services (3,959). Job-losing sectors include computers/communications (-4,235), defense (-2,727), and bioscience (-1,345).

While software continues to be the leading job gainer in Silicon Valley, semiconductors showed strong job gains in 1994 after four years of job losses. Computer hardware continues to undergo major restructuring. It is noteworthy that losses in computer/communication exceeded losses in defense for the first time since 1989.

It is also important to note that one of the fastest-growing industry clusters is innovation services, which includes contract manufacturing.
SPECIAL ANALYSIS

When the growing semiconductor industry cluster is separated into semiconductor devices and semiconductor equipment it is clear that the fastest job growth has been occurring in semiconductor equipment.

Since 1993, jobs in semiconductor equipment have increased 68% compared to a 7% increase in jobs in semiconductor devices. In the first half of 1992, jobs in semiconductor devices totaled 34,615; jobs in semiconductor equipment totaled 4,159. In the first quarter of 1993, semiconductor-device companies employed 36,691 people compared to 7,142 for semiconductor equipment.

Silicon Valley is a world leader in the manufacturing of semiconductor equipment. When a semiconductor fabrication plant is built in the United States or overseas, approximately 70% of the $1-2 billion in capital investment is in semiconductor equipment. A large portion of that equipment is made here in Silicon Valley.

Relative change in the number of jobs

Source: Employment Development Department
*Estimate.

SPECIAL ANALYSIS

There is strong evidence of rising self-employment in the Silicon Valley economy. Based on projections from the 1990 Census, in 1994 over 7% of the workforce was self-employed.

Another indicator of self-employment is the number of single-employee business operations in Silicon Valley communities. In the four largest cities in Silicon Valley, the number of single-employee business licenses has increased 44% since 1989, from 19,600 to 28,400. Note that this absolute number significantly understates the actual number of single-employee businesses as many do not operate with licenses.

Tracking this change is important for fully understanding the Silicon Valley economy, since self-employed people are not reflected in state employment datasets. A key question: “Is rising self-employment a cyclical change (a function of early 1990’s economic downturn) or a structural change (fundamental change in economic structure)?”

Growing Number of Single-Employee Businesses Indicates Rising Self Employment

Business licenses outstanding for operations with a single employee

Source: Cities of Fremont, San Jose, Santa Clara, Sunnyvale
Software Jobs Not Just for Engineers

1994 software industry employment by occupational category

Source: Employment Development Department

SPECIAL ANALYSIS

Software is the fastest growing industry cluster in Silicon Valley. For every engineer who is designing new software, there are many more people required for professional/managerial, clerical, administrative, sales and production positions. A significant number of jobs in software do not require engineering or post-graduate degrees.

Average Real Wages Rise 2.6% Since 1992

Average annual growth in per employee wages is an indicator of job quality. This is as important a measure of Silicon Valley's economic vitality as job quantity.

HOW ARE WE DOING?

From 1992-1995, average per employee wages increased for Silicon Valley workers by 2.6% after accounting for inflation. Nationally, average wages increased 2.3%.

The increase for cluster industries, which employ 35% of Silicon Valley’s private sector workforce, was 4.1%. The increase for other industries just kept pace with inflation.

In 1995, the average annual individual wage earnings in Silicon Valley were an estimated $38,824. The average for cluster industries was $56,113. The average annual earnings nationally were $26,939.

Source: Employment Development Department, Bureau of Labor Statistics

Estimate.
**WHY IS IT IMPORTANT?**

Average annual earnings increases in driving cluster industries are an indicator of the wealth-generating impact that export-oriented industries have on our region. Healthy cluster industries should lead to healthy local service industries, such as retail, construction, and personal services.

**HOW ARE WE DOING?**

Software and semiconductor average annual earnings reached $70,000 and $68,000 respectively in 1994. This compares to $38,824 for all industries in Silicon Valley. Environmental technologies and professional services are the only two cluster industries that pay below the all-industry average.

---

**WHY IS IT IMPORTANT?**

In a 21st century community, companies benefit from the skills held by people with diverse backgrounds as they work to build competitive advantage. At all levels in the region's companies and organizations, people will be working with colleagues of different backgrounds.

**HOW ARE WE DOING?**

Women and minorities made substantial progress in the 1980's moving into managerial and engineering occupations in Silicon Valley. The number of women in managerial positions increased 108% from 28,858 to 59,933. The number in engineering positions increased 178% from 4,399 to 59,933. The share of women employed in administrative/secretarial positions fell from 33% to 26% between 1980 and 1990.

Managers from minority backgrounds increased from 13,534 to 32,642 (141%). Minorities in engineering occupations increased from 8,405 to 21,874 (160%).

In 1990, women made up 44% of the Silicon Valley workforce, and minorities 38%.
Valley Drives One-Third of California Exports

![Bar chart showing export sales from Silicon Valley zip codes 940, 945, 950, 951.](chart)

**WHY IS IT IMPORTANT?**

Exports generate wealth and jobs for a region and are an important indicator of global competitiveness. The U.S. Department of Commerce estimates that every $1 billion increment in new export sales creates an average of 20,000 jobs.

By 2010, world imports by America's trading partners are projected to increase from $2 trillion to $5 trillion in real terms. Serving these growing markets is key to employment and sales growth of existing and new Silicon Valley firms.

**HOW ARE WE DOING?**

With less than 10% of California's population, Silicon Valley accounted for 34% of California's export sales in 1994. Silicon Valley's share of California export sales has increased steadily from 28% in 1987.

From 1993 to 1994, Valley exports grew 23% from $22 billion to $27 billion. Statewide, exports grew 15%; nationally exports grew 10%.

---

Value Added Per Worker Up 50%

![Bar chart showing value added per worker in the United States and Santa Clara County.](chart)

**WHY IS IT IMPORTANT?**

To sustain increases in standard of living, 21st century communities must have value added per worker that increases over time. High and increasing value added in companies is a prerequisite for high and increasing income for workers.

Value added per worker is arrived at by subtracting the costs of a company's various material inputs and contracted services from the final value of the products manufactured.

**HOW ARE WE DOING?**

Between 1987 and 1992 annual value added per Valley worker increased 50% from $76,000 to $114,000. In 1992, U.S. value added per worker ($78,000) just topped the Valley's 1987 level.

A main reason for the Valley's high value added is its concentration in the highest value-added segments of high-tech industries. For example, value added in the Valley computer industry is 35% higher than the national average ($158,181 vs. $116,744). In communications equipment, value added in the Valley is 48% higher than the national average ($156,000 vs. $105,109). Electronics components' value added is 43% higher ($119,538 vs. $83,515).

Other factors contributing to high value added include our high degree of specialization, well-trained workforce, and innovative corporate structure.
WHY IS IT IMPORTANT?

Venture capital is one of three main sources of funding used to start and grow new companies. Other sources include personal savings and investment by family and friends. Typically, only firms with potential for exceptionally high rates of growth (25-40% annually) over a 5 to 10-year period will be attractive to venture capital. These firms are highly innovative in their technology and market focus.

The amount of venture capital invested in our region and the types of industries supported are predictors of future job and output growth.

HOW ARE WE DOING?

From 1990 to 1995, venture capital investments in Silicon Valley firms increased 75%. The largest single-year increase was 30% between 1993 and 1994.

In 1995, software and communications continued closing in on biotechnology as the largest sector recipient of venture capital (21% vs. 28%).

WHY IS IT IMPORTANT?

The number of gazelles is an important indicator of the economic vitality of Silicon Valley. A gazelle, a term coined by David Birch of Cognetics Inc., is a company that has grown at an annual compounded growth rate of 20% for the last four years, starting with at least $1 million in sales. By generating accelerated increases in output and jobs, these firms stimulate the development of other businesses and personal spending throughout the region. The number of initial public offerings (IPO's) can be considered a leading indicator of future gazelles. Traditionally, Silicon Valley has served as a wellspring for fast growing start-up firms.

HOW ARE WE DOING?

The region remains a hotbed for gazelles. In 1995, there were 38 publicly held gazelles, down slightly from 43 in 1994. On average 17% of the Valley's public firms operate at this level of growth. Nationally, only 3% of firms sustain this level of growth.

Part of a decade-long upward trend, the number of initial public offerings by Silicon Valley firms jumped from 31 in 1994 to 45 in 1995. In 1995, the city of Mountain View was home to the largest number of IPO's in the nation. During the height of the 1992-93 Silicon Valley recession, IPO's were at all time highs. Historically high IPO levels the last four years bode well for future job and revenue growth in Silicon Valley firms.
**Valley R&D Two Times National Average**

![Bar chart showing R&D spending as a percent of revenue from 1988 to 1994.]

**WHY IS IT IMPORTANT?**

Corporate research and development spending is an important indicator of how companies are investing in their future. Corporate R&D is essential for developing new products and services that help companies stay on the cutting edge.

**HOW ARE WE DOING?**

Silicon Valley-based companies invest two times more as a percent of revenue than the national average. Silicon Valley is home to some of the most R&D intensive industries in the nation including semiconductors, biomedical, computer defense/aerospace, and software. Since 1992, Silicon Valley R&D spending as a percent of revenue has leveled off at 13.5%

Because Silicon Valley firms are so R&D intensive, government policies affecting R&D are especially important to this region.

**Vacancy Rates Drop to 10-Year Low**

![Bar chart showing vacancy rates from 1985 to 1995.]

**WHY IS IT IMPORTANT?**

Vacancy rates are a leading indicator of economic expansion or downturn. Declining vacancies mean lease rates likely will increase and interest in investment-related property development will heat up. The advent of a tight market could influence young companies to start up elsewhere and growing, established companies to expand elsewhere.

**HOW ARE WE DOING?**

In 1995, vacancy rates for commercial space—including office, R&D, manufacturing, and warehouse—dropped to less than 10% for the first time in more than a decade. At the same time, average quoted lease rates for R&D space reached an all-time high at $8.34 per square foot per month.

Driving these changes are corporate expansions driven by a powerful combination of initial public offerings and increasing global sales of Valley products, both of which provide the cash to hire workers and invest in facilities. This is translating into a strong, unprecedented increase in demand for higher-quality space for offices, R&D activity, and high-end manufacturing and product testing.

The surge in demand may pave the way for significant new construction in 1996 and 1997.

Source: Cornish & Carey Commercial/Korn International
WHY IS IT IMPORTANT?

In a 21st century community, business and people will have confidence in the ability of the region to meet their needs and transition through difficult times. Business confidence can serve as an indicator of business's desire to remain and expand in the region.

HOW ARE WE DOING?

Business confidence of Santa Clara County companies reached an all time high in 1995. After reaching the low point in 1992, business confidence grew from 60% in 1994 to 73% in 1995. This surpasses the Valley's previously recorded high of 71% in 1987 and the Bay Area's 1995 confidence level of 63%.
**High-School Drop-Out Rates Up Slightly**

![Graph showing high-school drop-out rates](image)

**WHY IS IT IMPORTANT?**

Most students must complete high school and two years of trade school or post-secondary education in order to gain access to a quality job. The high school drop-out rate is therefore a risk indicator that warns of lost potential and future societal costs.

In a global economy, a highly multicultural, skilled workforce has unique advantages. Providing a quality education for all ethnic groups should be a critical objective in Silicon Valley; reducing the drop-out rate for all ethnic groups is one measure of success.

**HOW ARE WE DOING?**

After a three-year decline, the drop-out rate increased slightly from 9% to 10% in the 1993-94 school year. Driving this increase are significant increases in drop-out rates for Hispanic, African-American, and Pacific Islander children. Hispanics are the fastest-growing student population, comprising 28%. Their drop-out rate increased from 15% to 20%.

---

**Student Mastery of Basic Skills Above State Average But Less Than 50% Strongly Proficient**

![Graph showing student mastery of basic skills](image)

**WHY IS IT IMPORTANT?**

The strength of Silicon Valley’s 21st century economy will be determined by the skills and knowledge of Silicon Valley’s next-generation workforce. The academic performance of today’s high school students is an important indicator of the potential of tomorrow’s workforce. Strong basic skills in reading, writing, and mathematics are the foundation for the acquisition of advanced education and skills—and the lifelong learning necessary to keep pace in a competitive global economy.

**HOW ARE WE DOING?**

The good news is that Silicon Valley high-school students as a whole demonstrate better basic skills than their counterparts in the rest of California. The bad news is that less than 50% of today’s Silicon Valley high school students demonstrate strong proficiency in reading and writing. Less than 25% demonstrate strong proficiency in mathematics. This means that in a 10th grade class of 30 students, only about 12 students can read and write with strong proficiency and only about 7 possess solid skills in mathematics.
**WHY IS IT IMPORTANT?**

The Internet can provide access to a new world of information and opportunities to enrich education. While impact of Internet access on education can vary widely, it is a gateway indicator. Without a basic connection to the Internet, educators and students cannot even explore the possibilities. This indicator shows the number of schools connected to the Internet in 1995.

**HOW ARE WE DOING?**

Today, only about 13% of public schools in Santa Clara and San Mateo Counties have basic access to the Internet. In Santa Clara County, 60 of the 335 K-12 school sites have Internet access, as do 11 of the 160 school sites in San Mateo County.

---

**WHY IS IT IMPORTANT?**

Air quality is fundamental to the health of people, nature, and the economy.

The number of days Silicon Valley air exceeds ozone standards is an indicator of air contamination. Ozone is the main component of smog and is created when organic emissions are exposed to sunlight. Two other harmful pollutants that come from vehicles are carbon monoxide and fine particulate matter.

**HOW ARE WE DOING?**

After a decade of decline, the number of “bad air days” in Silicon Valley jumped to six days exceeding the federal standard and 26 exceeding the state standard in 1995. The federal standard is 120 parts per billion (ppb); the state standard is stricter at 90 ppb.

In the previous seven years, Silicon Valley had not exceeded federal smog limits more than three times. The difference in 1995 was the hot and still weather.

More than half of the toxic air contaminants in the Bay Area come from vehicles.

---

*Source: Santa Clara County Office of Education and San Mateo County Office of Education*

*Source: Bay Area Air Quality Management District*
WHY IS IT IMPORTANT?

Over 3,000 facilities in Santa Clara County generate hazardous waste. Release of toxic chemicals into the region's air, land, water, or sewage systems can cause public health and environmental hazards. Approximately 125 manufacturers in Santa Clara County are required to report releases of certain toxic chemicals to the U.S. Environmental Protection Agency.

HOW ARE WE DOING?

Santa Clara County industry achieved a 66% reduction in the amount of toxic chemicals released to our local environment between 1987 and 1994. This compares to a 46% reduction nationwide, and 56% reduction statewide between 1987 and 1993 (comparative data unavailable for 1994). In 1994, air emissions accounted for 43% of the local toxic releases, while discharges to sewage treatment plants accounted for 54%.

The primary driver of the release reductions is the pollution prevention efforts of companies. Achievements in reduced air emissions are especially impressive. Releases of ozone-depleting Freon 113, for example, were reduced by nearly 2.5 million pounds between 1987 and 1994. Releases to sewage treatment plants, however, have remained constant. An area of ongoing concern is heavy metal pollutants and their impact on the South Bay ecosystem.

WHY IS IT IMPORTANT?

The disposal of solid waste is one of the most visible environmental issues in the United States. By the time a baby born today reaches age 75, he or she will have produced 52 tons of garbage. In 1989, California responded to this problem by passing the Integrated Waste Management Act which sets targets for municipalities to reduce their waste volumes going to the landfill.

HOW ARE WE DOING?

Santa Clara County has reduced its annual disposal volume by 30% since 1987, sending 624,000 fewer tons to the landfill in 1994 than in 1987. Curbside and corporate recycling is the major reason for this success. Leading Silicon Valley companies recycle over half their waste, some generating significant net profits. In 1994 market prices for waste paper, plastics, and aluminum began to soar as manufacturers increased demand for these waste products.
**Environment**

**WHY IS IT IMPORTANT?**

Preserving greenbelt lands helps retain and attract workers for Silicon Valley companies. Many enjoy the beauty and recreation opportunities that publicly accessible open space provides. In an era of increasing workforce mobility, an attractive natural environment is important for the economy.

**HOW ARE WE DOING?**

Nearly 66% of undeveloped acreage in Santa Clara and San Mateo counties (1.1 million acres) is either secure greenbelt or at low-risk of development. This share is up from 63% in 1989.

One reason is an upsurge in public and non-profit land acquisition activities. A second reason is the shift toward infill municipal planning strategies, targeting development to existing urban areas rather than expanding urban growth boundaries. A third reason is defeat by citizen ballot measures of several specific development proposals.

---

**Infrastructure**

**WHY IS IT IMPORTANT?**

The variety, affordability, and location of housing affect a region’s ability to maintain a viable economy and high quality of life. A 21st century community understands that businesses need workers with widely varying skill levels and plans for a variety of appropriately located housing serving different income levels.

When the 1995 affordability measure was adjusted for taxes and insurance costs, the gap between Silicon Valley and Austin, an often-mentioned competitor for corporate expansions, narrowed.

**HOW ARE WE DOING?**

In the first half of 1995, housing affordability declined only slightly from its peak in 1994. In 1994, 42% of Silicon Valley residents could afford median-priced homes compared to 40% in 1995. The key change is slightly increased interest rates. Factors keeping affordability from slipping further are continued increases in per-capita income and the increased availability of new, multi-family infill housing.
**Vehicle Delays Declining**

![Graph showing vehicle delays declining from 1988 to 1994.](image)

**Average daily vehicle hours of delay on freeway system, Santa Clara County**

Source: Caltrans, Highway Operations Branch

---

**Why Is It Important?**

The more we drive, the more we congest our roads, pollute our air, and consume a non-renewable resource. In a 21st century community people will minimize drive-alone commute trips. Workplaces and communities will provide other commute options—public transit, carpooling, telecommuting, housing within walking or biking distance from offices.

Vehicle hours of delay measures recurring congestion on our freeways during the weekday.

---

**How Are We Doing?**

Average daily vehicle hours of delay on freeways in Santa Clara County decreased 36% from 12,810 hours in 1993 to 8,140 hours in 1994. (By contrast, vehicle hours of delay in San Mateo County average 1,400.) Key factors driving delays down were lane widening and the addition of a carpool lane on Highway 101. A contributing factor was the completion of the Highway 85 by-pass in October.

---

**Public Transit Ridership Levels Off**

![Bar chart showing public transit ridership levels off from 1987 to 1995.](image)

**Number of riders using the regional transportation system, Santa Clara and San Mateo counties**

Source: Santa Clara County Transit Authority, San Mateo County Transit District, Peninsula Corridor Joint Powers Board

---

**Why Is It Important?**

Development and use of public transit decrease congestion and pollution.

---

**How Are We Doing?**

After rising from 58 million in 1987 to 72 million in 1991, ridership on Silicon Valley's light rail, bus, and Caltrain systems has been stagnant. Only 4% of Santa Clara County commuters use public transit. A key reason for low usage and stagnant ridership is that the system is under-developed where larger numbers of commuters live and work.

Buses are the most widely used form of public transportation, accounting for 82% of total annual rides in the two counties.
WHY IS IT IMPORTANT?
Through dance ensembles, concert performances, theatre groups, museums, and galleries, the arts bring a vitality and beauty to community life. An active cultural community helps attract new people to the community and builds its reputation. The arts also play a role in bridging different cultures and ethnic groups, and positively impact youth-at-risk. In addition, the arts bring direct economic benefits to communities through spending by arts organizations and their clients. Artistic creativity is increasingly central to Silicon Valley industries, such as multimedia.

HOW ARE WE DOING?
In fiscal year 1995, over 1.4 million people visited Silicon Valley’s 12 largest arts organizations (including multiple visits), up from 700,000 in 1989. The start-up of two new organizations, the Tech Museum and the Children’s Discovery Museum, is responsible for about 50% of this client increase.

Financial contributions, however, are not growing as fast. In fiscal year 1995, the largest Silicon Valley arts organizations received $5.7 million in contributions, up 38% in real terms since 1989. This compares to the 100% increase in clients during the same period.

In addition to the 12 largest arts organizations, Silicon Valley is home to over 200 other non-profit arts organizations.

WHY IS IT IMPORTANT?
In a 21st century community, people will invest in their community to make it as good as it can be. There will be strong, long-standing traditions of charitable giving and community involvement. Data on personal giving can be considered an indicator of personal involvement in and commitment to our community.

HOW ARE WE DOING?
One way to judge a community’s philanthropy is to compare its charitable giving with the income of its residents. Of the 50 largest metropolitan regions in the United States, the San Jose Metropolitan Area has the largest gap between per capita income (ranking 3rd) and per capita giving (ranking 39th). This means that people in our region give far less to charitable causes than might be expected from their income level.
Low-Birth-Weight Infants Increase

Why is it important?

The share of children with low birth weights is a predictor of future costs communities will incur for preventable health problems and special education. According to the U.S. Office of Technology Assessment, for every low birth weight avoided through early or comprehensive prenatal care, the health care system saves $14,000-$30,000 in hospitalization and long-term healthcare costs. Poor nutrition while in the womb is the major reason why babies are small at birth. A 21st century community will ensure that mothers of all backgrounds have access to and are encouraged to use prenatal healthcare and enjoy sound nutrition.

How are we doing?

The share of low-weight births in Santa Clara County increased from 5.3% in 1993 to 5.7% in 1994. The state average increased from 5.8% to 6.2%. Five percent is the national target set by the U.S. Public Health Service.

Poverty Affects 53,000 Children

Why is it important?

21st century communities provide leadership to ensure that all people have the opportunity to participate in and benefit from the community’s economic development. Children who grow up in poverty face significant hurdles to becoming contributing members of society—poor nutrition, poor access to preventive health care, increased risk of dropping out or falling behind in school, increased risk of pregnancy.

How are we doing?

Since 1989, the share of children living in poverty is estimated to have increased from 10% to 13%, or to 1 in 8. In 1995, the number of children living in poverty fell slightly for the first time from 55,000 to 52,978. Child poverty is highly concentrated geographically; three-fourths of the children growing up in poverty live in 30% of the region’s census tracts.

An estimated 10,567 seniors live in poverty in Santa Clara County, or 7.1% of the senior population. Senior women are nearly twice as likely as senior men to live in poverty. The chief reason for this disparity is that fewer women have private pensions, and their private pensions and social security pay less due to fewer work years and lower pay.
WHY IS IT IMPORTANT?

Effective child support enforcement can end poverty for many children. Also, it reinforces personal responsibility and decreases support costs borne by the taxpayers.

HOW ARE WE DOING?

Santa Clara County has the lowest child support payment rate in the 10-county Bay Area (including Santa Cruz); and it is one of two counties whose payment rate is worse than the California average (Solano is the other). Santa Clara County is the wealthiest county in the Bay Area.

In 1994, only 40% of children in Santa Clara County owed child support by a non-custodial parent received some payment. Santa Clara County ranks 31st of 38 California counties. Santa Mateo, by contrast, ranks third in the state at 58%.

WHY IS IT IMPORTANT?

The level and perception of crime in a community are two of the most significant factors in individuals' assessment of their quality of life. Crime is unique with respect to the wide range of costs it imposes on a community. There is the direct loss of life and property along with the resources expended to fight crime. In addition, the fear, frustration, and anger resulting from crime chisel away at our sense of community.

HOW ARE WE DOING?

Santa Clara county has the lowest crime rate of California's seven largest counties. The violent crime rate in 1994 edged up to 576 crimes per 100,000 inhabitants.

However, violent juvenile crime in Santa Clara county has risen dramatically over the last decade. The rate of violent felony offenses per 100,000 juveniles increased from 136 in 1985 to 626 in 1994. Nearly 1,000 juveniles were arrested in 1994 for violent felony offenses, most notably assault and robbery. In 1994 violent offenses were 20% of all juvenile felony arrests compared with 10% in 1985.
Appendix A: Data Sources

Silicon Valley Gains 46,000 Jobs since 1992

The California Employment Development Department (EDD) and Joint Venture: Silicon Valley Network have constructed a unique dataset to track employment and wages in the Silicon Valley region based on unemployment insurance filings. This data series begins in 1992 and is updated quarterly. This dataset does not cover self employment.

Job Growth Led by Software, Semiconductors, Services

Cluster employment estimates are drawn from the EDD/Joint Venture Silicon Valley dataset and are based on federal Standard Industrial Code (SIC) classifications. These codes track numerous types of industrial activity and have been arranged by Joint Venture to best encompass the employment activity found in the region's driving clusters.

Jobs in Semiconductor Equipment Grow Faster than Jobs in Semiconductor Devices

Data are derived from the EDD/Joint Venture Silicon Valley dataset and track employment activity in SIC codes 3674 and 3359.

Growing Number of Single-Employee Businesses Indicates Rising Self Employment

Data for this indicator have been provided by the following cities: Fremont, San Jose, Santa Clara, and Sunnyvale. Business licenses for home-based operations and operations with one employee were aggregated to provide an indicator of self-employment activity across the region.

Software Jobs Not Just for Engineers

Data are provided by the EDD's Labor Market Information Division. This information is derived by cross-tabulating the EDD's Occupational Employment Statistics series with the EDD/Joint Venture Silicon Valley employment dataset.

Average Real Wages Rise 2.6% since 1992

Data are derived from the EDD/Joint Venture Silicon Valley data set. This information comes from individual firms reporting payroll amounts in compliance with unemployment insurance rules. All wages have been adjusted into 1994 dollars using the Bureau of Labor Statistic's San Francisco Bay Area Region Consumer Price Index.

Software and Semiconductors Lead Average Wages

Mean payroll per employee wages for each cluster are derived from the EDD/Joint Venture Silicon Valley dataset. Wages are reported in 1994 nominal dollars.

Valle y Drives One-Third of California Exports

Data are provided by the U.S. Department of Commerce, International Trade Administration, Office of Trade and Economic Analysis from the Exporter Location Series. Data are sales by exporters in the geographic area with zip codes beginning 940, 945, 950, and 951. Data include manufactured and non-manufactured goods, but do not include services. (In Silicon Valley, non-manufactured exports are less than 1% of total exports.)

Value Added per Worker up 50%

This indicator reflects annual value added per worker for Santa Clara County and the nation as a whole. The data come from the 1992 and 1987 U.S. Census of Manufacturers. Value added per worker is the total value added for each company divided by total employees. Total value added per company is derived by subtracting the total costs of inputs, other than direct labor costs, from the stated value of the final goods produced. These estimates are adjusted by the addition of value added by merchandising operations plus the net change in finished goods and work-in-process between the beginning and end-of-year inventories. The Census of Manufacturers is conducted every five years by the U.S. Department of Commerce. Data for comparative regions were not available at time of printing.

(Note that this indicator measures annual value added per worker in manufacturing companies. The indicator in the 1995 Index measured value added per hour by production workers in manufacturing companies.)

Venture Capital Increases 30% 1993-94

Data come from the quarterly report of the San Jose Mercury News, “The Money Tree.” Ernst and Young LLP provides the analysis. Based on surveys of Bay Area venture capital firms, this report tracks 1) which local companies receive funding, 2) their location, and 3) the type of technology being financed. For the Index of Silicon Valley, only investments in firms located in Silicon Valley were included. Collaborative Economics estimated the 1995 fourth quarter venture capital funding level based on past patterns.
IPO'S SET THE STAGE FOR GAZELLE GROWTH

Data are from the San Jose Mercury News, “How Local Companies Fared.” This is a quarterly report which tracks publicly traded firms in the Valley. Gazelles are public companies that have doubled their revenue in the past four years beginning with $1 million in sales.

VALLEY R&D TWO TIMES NATIONAL AVERAGE

Data have been compiled by Standard and Poor’s Compustat for Joint Venture Silicon Valley based on public firm 10K and 10Q reporting with the Securities and Exchange Commission. In Silicon Valley over 300 firms report such information with the SEC.

VACANCY RATES DROP TO 10-YEAR LOW

Data are from Cornish and Carey Commercial/Oncor International, Santa Clara Office. Data covers Santa Clara County plus the southern portion of Alameda County. Data for R&D space are provided “triple net” or “NNN” which is a base lease rate that excludes the costs of utilities, janitorial services, taxes, maintenance, and insurance.

BUSINESS OPTIMISM AT ALL-TIME HIGH

Data come from the annual “Bay Area Poll” conducted for the Bay Area Council by Field Research Corporation each October. The question asked is, “Turning to business conditions in the Bay Area as a whole, do you think during the next 12 months that financially we’ll have good times, somewhat good times, somewhat bad times, or bad times?”

“Business confidence” reflects the percentage of respondents who responded positively to either of the first two classifications.

HIGH-SCHOOL DROP-OUT RATES UP SLIGHTLY

Data include cumulative three-year drop-out rates for 10th-12th grade students in Santa Clara County, San Mateo County, and Fremont Unified School District.

STUDENT MASTERY OF BASIC SKILLS ABOVE STATE AVERAGE BUT LESS THAN 50% STRONGLY PROFICIENT

In 1993 and 1994 the California Department of Education conducted the California Learning Assessment System to measure student achievement in basic skill areas. Achievement was measured on a scale of 1 to 6. Scores of 4 or above were considered to demonstrate “thorough” or “substantial” understanding. This program will not be conducted in future years.

SMALL PERCENTAGE OF SCHOOLS CONNECTED TO THE INTERNET

Data for San Mateo County are from the San Mateo County Office of Education, Technology and Media Services Center. Data for Santa Clara County are provided by the Santa Clara County Office of Education, Office of the Superintendent. This information was current as of November 1995.

BAD AIR DAYS TREND DOWN, BUT TURN UP IN 1995

The Bay Area Air Quality Management District takes daily measurements of air quality at 12 monitoring stations in Silicon Valley. The indicator reflects the number of days that at least one of these stations exceeds the federal or state standards. The stations are Los Gatos, Alum Rock, Mountain View, Redwood City, San Jose-4th Street, San Jose-East, San Jose-SC, Fremont, Gilroy, San Martin, Pacheco Pass, San Jose-JBM.

TOXIC CHEMICAL RELEASES REDUCED BY TWO-THIRDS

Data were provided by the Santa Clara County Pollution Prevention Program from the U.S. Environmental Protection Agency’s Toxic Release Inventory (TRI). A facility must report to TRI if it meets all of the following criteria: a) is in a specified manufacturing Standard Industrial Classification (SIC) code, b) has ten or more full-time employees, and c) manufactures or processes more than 25,000 lbs. or uses more than 10,000 pounds of any listed chemical. Approximately 125 facilities in Santa Clara County are required to report to TRI, which is a small fraction of the approximately 3,000 hazardous waste generators in the County. This analysis is based on onsite releases to the local environment; it does not include TRI data about off-site disposal or recycling. In the past, the TRI list included 316 chemicals and 20 broad chemical categories, but the list was expanded to include additional chemicals for 1995 reports. Note that the pounds of chemicals released do not necessarily correlate with the public health or environmental impact because hazard varies among chemicals.

WASTE DISPOSAL DOWN, RECYCLING UP

Data are from Santa Clara County, Environmental Resources Agency, Integrated Waste Management Program. Data measure tons of solid waste generated by households and businesses in Santa Clara County and disposed of in Santa Clara County landfills. (Less than 1% of waste generated is shipped to landfills outside of Santa Clara County.)

VALLEY OPEN SPACE MAINTAINED

Data are from the Greenbelt Alliance. “Secure Greenbelt” is land not threatened by development, including most public lands, land trust properties, easements, and private land securely protected by a vote of the people. “Low risk” is land which, for a variety of geographic, political, and regulatory factors, is not likely to be threatened in the near future.
IMPROVEMENT IN HOUSING AFFORDABILITY SLOWS, TAXES AFFECT COMPARATIVE COSTS

Data are from the National Association of Home Builders’ Housing Opportunity Index, and the Texas Real Estate Board’s Housing Affordability Index. When comparing housing affordability to other regions, Silicon Valley has often fared poorly. However, when such measures are adjusted to account for housing-related costs, such as taxes and insurance, the gap between Silicon Valley and other regions, such as Austin, is considerably reduced. The Index is based on the median household income and the median price of a home sold in each region. The 1995 figure is the average of the first two quarters.

VEHICLE DELAYS DECLINING

Data provided by Caltrans District 04 Highway Congestion Monitoring Program. Vehicle hours of delay are a multiplicative function of three factors. The first factor (v) is the volume, or potential capacity. This is 2000 passenger cars/ lane/hour. The second factor (d) is the duration of the congestion. Congestion is defined as a condition where the average speed drops below 35 mph for 15 minutes or more on a typical weekday. The third factor (t) is travel time. Data are collected via “floating cars” equipped with a computerized program that records car speed and time as it travels.

PUBLIC TRANSIT RIDERSHIP LEVELS OFF

Data are the sum of the total riders sold on the light rail, the bus systems in Santa Clara and San Mateo counties, and Caltrain.

ARTS CONTRIBUTIONS GROW, CLIENTS GROW FASTER

Data are from a survey conducted by Collaborative Economics of the 12 largest arts organizations in Silicon Valley in cooperation with the San Jose Arts Roundtable and the Arts Council of Santa Clara County. Surveyed organizations include the American Musical Theatre, Community School of Music and Arts, San Jose Children’s Discovery Museum, Opera San Jose, San Jose Cleveland Ballet, San Jose Symphony Orchestra, San Jose Museum of Art, San Jose Repertory Theatre, Tech Museum of Innovation, Theatre Works, and Triton Museum. Contributions are financial contributions to operating budgets, excluding ticket sales. Clients are the number of visitors, including multiple visits by one person.

WIDEST GAP BETWEEN PERSONAL INCOME AND GIVING

Data on personal giving are from The Chronicle of Philanthropy (February 22, 1994). Rankings are based on per capita giving to major national charities, including the United Way, the American Red Cross, Jewish federations, the American Cancer Society, the YMCA, Goodwill Industries, and Boy Scouts/Girl Scouts.

LOW-BIRTH-WEIGHT INFANTS INCREASE

Data are from the State of California, Department of Health Services, Birth Records. Babies weighing under 2500 grams are considered “low birth weight.”

POVERTY AFFECTS 53,000 CHILDREN

Poverty estimates are from the Santa Clara County Executive’s Office, Office of Budget and Analysis. Poverty is measured directly by the U.S. Census every ten years. The federal poverty level for a family of three is currently $1,050 per month.

Child poverty estimates for the Index of Silicon Valley are based on the number of children receiving Aid to Families with Dependent Children (AFDC). The ratio of “AFDC children” to “poverty children” is calculated using 1990 Census data (collected in 1989) as the base year. This ratio is then applied to annual AFDC children data for future years to arrive at child poverty estimates for future years. (Data for children receiving AFDC come from the Santa Clara County Social Services Agency.)

Elderly poverty estimates for the Index of Silicon Valley are based on the number of seniors eligible for Medi-Cal each year. The ratio of “Medi-Cal seniors” to “poverty seniors” is calculated using 1990 Census data (collected in 1989) as the base year. This ratio is then applied to the annual Medi-Cal seniors data for future years to arrive at estimates of seniors in poverty for future years. (Data on seniors eligible for Medi-Cal are from the California Department of Health Services.)

SANTA CLARA COUNTY LOWEST CHILD SUPPORT ENFORCEMENT

Data are from Children Now. The indicator tracks the percentage of cases with current support due in the month of September that actually received some payment. September represents a snapshot month of child support collection and may be considered typical of child support payment.

YOUTH CRIME ESCALATES; OVERALL CRIME RATE REMAINS LOW

Data are from the California Attorney General’s Office, Department of Justice, “Juvenile Felony Arrests.” Violent offenses include homicide, forcible rape, robbery, assault, and kidnapping.
Appendix B: Definitions

DEFINITIONS

Where possible, Silicon Valley
Indicators collected data for the economic region of Silicon Valley. This
includes Santa Clara County as its core and extends into the following adjacent zip codes:

<table>
<thead>
<tr>
<th>City</th>
<th>Zip Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alameda County</td>
<td>94536-39, 94555</td>
</tr>
<tr>
<td>Fremont</td>
<td>94539</td>
</tr>
<tr>
<td>Union City</td>
<td>94587</td>
</tr>
<tr>
<td>Newark</td>
<td>94090</td>
</tr>
<tr>
<td>San Mateo County</td>
<td>94025</td>
</tr>
<tr>
<td>Menlo Park</td>
<td>94025</td>
</tr>
<tr>
<td>Atherton</td>
<td>94027</td>
</tr>
<tr>
<td>Redwood City</td>
<td>94061-65</td>
</tr>
<tr>
<td>San Carlos</td>
<td>94070</td>
</tr>
<tr>
<td>Belmont</td>
<td>94002</td>
</tr>
<tr>
<td>San Mateo</td>
<td>94000-03</td>
</tr>
<tr>
<td>Foster City</td>
<td>94040</td>
</tr>
<tr>
<td>East Palo Alto</td>
<td>94303</td>
</tr>
<tr>
<td>Santa Cruz County</td>
<td></td>
</tr>
<tr>
<td>Scotts Valley</td>
<td>95066-67</td>
</tr>
</tbody>
</table>

SEMICONDUCTOR INDUSTRY

3559 Special industry machinery
3674 Semiconductors and related
devices
3825 Instruments for measuring
and testing electricity
and electrical signals

SOFTWARE INDUSTRY

7371 Computer programming
services
7372 Prepackaged software
7373 Computer integrated
systems design
7374 Computer processing and
data preparation and
processing services
7375 Information retrieval
services

ENVIRONMENTAL INDUSTRY

3564 Industrial and commercial
fans and blowers and
air purification
equipment
3589 Service industry machinery,
n.e.c.
495 Sanitary services
5093 Scrap and waste materials

DEFENSE/AEROSPACE INDUSTRY

348 Small arms ammunition
3671 Electron tubes
372 Aircraft and parts
376 Guided missiles and space
vehicles
3795 Tanks and tank
components
381 Search, detection,
navigation, guidance,
aeronautical, and
nautical systems,
instruments, and
equipment

BIOSCIENCE INDUSTRY

283 Drugs
284 Surgical medical and
dental instruments and
supplies
8071 Medical laboratories
8072 Laboratory apparatus
and analytical, optical,
measuring, and
controlling instruments
(except 3822, 3825, and
3826)

INNOVATION/MANUFACTURING
RELATED SERVICES

5045 Computers, and computer
peripheral equipment
and software (wholesale
trade)
5065 Electronics parts and
equipment, n.e.c.
(wholesale trade)
7376 Computer facilities man-
agement services
7377 Computer rental and leasing
7378 Computer maintenance
and repair
7379 Computer related services,
n.e.c.
8711 Engineering services
873 Research and testing ser-
ices

PROFESSIONAL SERVICES

275 Printing
276 Manifold business forms
279 Service industries for the
printing trade
731 Advertising
732 Consumer credit reporting
agencies
733 Mailing, reproduction,
commercial art and
photography, and
stenographic services
735 Miscellaneous equipment
rental and leasing
736 Personnel supply services
81 Legal services
8712 Architectural services
8713 Surveying services
872 Accounting, auditing, and
bookkeeping services
874 Management and public
relations services

The numbers correspond to federal
Standard Industrial Classification (SIC) codes.
**n.e.c. means “not elsewhere classified”
Sponsors

Applied Materials, Inc.
Aspect Telecommunications
Arthur Andersen & Company
Bank of America
EDS
Integrated Device Technology, Inc.
Rudolph and Sletten, Inc.
Silicon Graphics, Inc.
Therma

U.S. Department of Commerce
Economic Development Administration

Joint Venture:
Silicon Valley Network

99 Almaden Blvd., Suite 610
San Jose, CA 95113-2002
408-271-7213, Fax 408-271-7214
Outside 408 area code: 800-573-JSVV
Internet E-mail: jsvoffice@aol.com
World Wide Web
http://www.svi.org/jointventure