

# JOINT VENTURE BOARD OF DIRECTORS

#### **OFFICERS**

Harry Kellogg, Jr. – Co-Chair Silicon Valley Bank

#### DIRECTORS

Harjinder Bajwa Solectron

Gregory Belanger Comerica Bank

Frank Benest City of Palo Alto

George Blumenthal University of California at Santa Cruz

Steve Bochner Wilson Sonsini Goodrich & Rosati

Ed Cannizzaro KPMG LLP

Pat Dando San Jose/Silicon Valley Chamber of Commerce

Chris Dawes Lucile Packard Children's Hospita

Darren Deffner Pacific Gas and Electric

Chris DiGiorgio Accenture Inc.

Dan Fenton San Jose Convention & Visitor's Burea Hon. Liz Kniss – Co-Chair Santa Clara County Board of Supervisors

Rick Fezell Ernst & Young

Jon Friedenberg El Camino Ho<u>spital</u>

Timothy Haight Menlo College

Chet Haskell Cogswell Polytechnical College

Joe Head SummerHill Home

Kevin Healy PricewaterhouseCoopers LLP

Gary Hooper Hooper and Associates

Beatriz Infante VoiceObjects, Inc.

Hon. Rose Jacobs Gibson San Mateo County Board of Supervisors

Mark Jensen Deloitte & Touche LLP

VICE CHAIR

Nancy Handel Corporate Executive Russell Hancock – President & CEO Joint Venture: Silicon Valley Network

Martha Kanter Foothill-De Anza Community College District

Don Kassing San Jose State University

W. Keith Kennedy, Jr. Con-way, Inc.

Alex Kennett Solutions Inc.

Bernadette Loftus Kaiser Permanente

James MacGregor Silicon Valley San Jose Business Journal John Maltbie

San Mateo Couni Jean McCown

Stanford Univer. Curtis Mo

WilmerHale LL

Joseph Parisi Therma Inc. Bobby Ram SunPower

> Hon. Chuck Reed City of San Jose

Paul Roche McKinsey & Company

Clyde Rodriguez AMD

Chris Seams Cypress Semiconductor Corporation

John A. Sobrato Sobrato Development Companies

Neil Struthers Santa Clara County Building & Construction Trades Council

Bob Tabke

Linda Williams Planned Parenthood Mar Monte

Daniel Yost Orrick, Herrington & Sutcliffe, LLF

# SILICON VALLEY COMMUNITY FOUNDATION BOARD OF DIRECTORS

#### CHAIR

Patricia Bresee Retired Commissioner, Superior Court of San Mateo County

#### DIRECTORS

Laura Arrillaga-Andreessen Stanford Graduate School of Business

Gloria Brown Community Leader

Caretha Coleman Coleman Consulting

Debra Engel Community Leade

#### **INDEX ADVISORS**

Bob Brownstein Working Partnerships US/

Leslie Crowell Santa Clara County

Mike Curran NOVA Workforce Board

Chris DiGiorgio Accenture

Jane Decker County of Santa Clara

Jeff Fredericks Colliers Internation

Marguerite Gong Hancock Stanford University Bernadine Chuck Fong, Ph.D. President Emerita, Foothill College

Thomas J. Friel Retired Chairman, Heidrick & Struggles International. Inc.

Gregory Gallo DLA Piper Rudnick Gray Cary LLP

Narendra Gupta Wind River

Chester Haskell

James Koch

John Kreidler

John Maltbie

1st Act

**Connie Martinez** 

**Stephen Levy** Center for the Continuing Study of the California Economy

County of San Mateo

Susan M. Hyatt Community Leader

William S. Johnson Palo Alto Weekly

Ivonne Montes de Oca The Pinnacle Company

Jennifer Raiser The Raiser Organizatior

Dave Pearce

Miasole AnnaLee Saxenian

University of California at Berkeley Chris Seams

Cypress Semiconductor Corporation

Anthony Waitz Quantum Insight

Kim Walesh City of San Jose

Linda Williams Planned Parenthood Mar Monte

Erica Wood Silicon Valley Community Foundation

#### John M. Sobrato Sobrato Development Companies

Richard Wilkolaski Seiler & Combany, LLP

Erika Williams The Erika Williams Grout

Jane Williams Sand Hill Advisors, Inc

Anne Yamamoto Frank, Rimerman + Co. LLF

#### Prepared By:

#### COLLABORATIVE ECONOMICS

Doug Henton John Melville Tracey Grose Gabrielle Maor Heidi Young Bridget Gibbons Hope Verhulp Dear Friends:

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

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

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

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

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

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

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

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

We warmly welcome you to join us.

Sincerely,

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



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

SILICON **community** VALLEY **foundation** SERVING SAN MATEO AND SANTA CLARA COUNTIES

# TABLE OF CONTENTS

7

INDEX AT A GLANCE	
PEOPLE	
Silicon Valley is drawing population from other U.S. and global regions at a stronger inflows are highly educated and ethnically diverse.	r pace than California. These pop
Talent	
Though employment growth slowed, it expanded at a faster rate than the state or na previous year. Venture capital investment and patent activity continue to grow and excost of living are rising.	ttion, adding nearly 28,000 jobs o xtend into new areas. Incomes and
Innovation	
Employment	
Income	
Old challenges continue to confront the region in the areas of health and education wh High school graduation rates dropped. Juvenile felony offenses increased slightly.	eere disparities by race/ethnic group
Preparing for Economic Success	
Early Education	
Arts and Culture	
Health	
Safety	
mprovements are underway in environmental quality and land use. Residents are ch energy sources. On the down-side, housing costs are rising and foreclosure rates are sh	aanging habits and seeking out ren kyrocketing.
Environment	
Land Use	
Housing	
Commercial Space	
The region continues to invest in its nonprofits, and its voters are increasingly indepe property taxes.	endent. City revenues rose mainly
Civic Engagement	
Revenue	
Revenue	
Revenue SPECIAL ANALYSIS continued	

# SPECIAL ANALYSIS

Economic Turbulence and Workforce Uncertainty: Mid-Wage Jobs in Silicon Valley Needs, Opportunities and Challenges

Silicon Valley is deeply integrated into the global network of innovative regions<sup>°</sup>. The competition for talent, innovation and capital has increased dramatically, driving a restructuring of the Valley's economy with a shift toward smaller, more nimble firms and higher value-added activities. This restructuring has resulted in a shift from long employer tenure linked with important social benefits such as health insurance and retirement to frequent job changes between employers who provide fewer and fewer benefits. Economic restructuring and its quickening pace of change in the global economy is accompanied by growing turbulence and uncertainty in our communities.

# The Flexible Economy and People

As businesses need the flexibility to quickly adapt to market changes in the ever-quickening global economy, employees are exposed to increased uncertainty. Firms are employing fewer people<sup>1</sup> and employee tenure is declining as people change jobs more frequently. In this setting incomes are prone to greater fluctuation, wage gaps are more prevalent and health and retirement benefits are less<sup>2</sup>. Further, the demand for higher skills continues to rise and with it the earnings gap between the high and low-skilled is widening.

#### Stuctural Change in the Global Economy



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



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

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

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

Not only is the size of a typical firm in Silicon Valley is shrinking (Zhang 2003, Dardia 2005), but growing numbers of people are earning incomes on their own as so-called "lone wolves". Since 2002, the number of businesses with no employees has been growing at a faster rate than the number of new jobs at firms. In 2005, these business owners without employees equated to 15% of total non-farm employment. From 2004 to 2005 the number of business owners with on employees grew by 8,690 while the number of jobs in firms with payroll grew by 6,400. These changes have significant consequences for workers in terms of continued access to vital benefits such as health insurance and retirement.

<sup>&</sup>lt;sup>2</sup> Nationally, the decline in health care coverage through employers has occurred in small firms and not large firms (Kim, et al. 2007, 13). With health care costs rising faster than before, small firms are feeling the pressure. For Silicon Valley in particular, a region characterized by very small businesses (Zhang 2003) and high employee turn-over (Saxenian 1999), there are serious implications for maintaining access to quality health care in the region. In addition to health coverage, the traditional framework for retirement savings has been disrupted by falling job tenure.

Needs, Opportunities and Challenges

# Focusing on the Middle Ground: Opportunities, Challenges, Implications

- In addition to world class engineering, design and other professional talent, our region demands skilled workers in midlevel occupations in a broad array of industries. The largest concentration of jobs in Silicon Valley is at the midwage level—paying between \$30,000 and \$80,000 per year. Just under half of all workers are drawing mid-level wages, while roughly one quarter are higher-wage employees and another quarter are lower-wage workers.
- Technological advance generates not only new opportunities for design and new product development but also new occupational opportunities for technical support. While this is true for the Valley's significant information technology sectors, growing biomedical and health technologist fields also exemplify these important relationships between high and mid-level occupations.
- Beyond globally-oriented industry sectors, the Valley needs "jobs of place" that promote the essential quality of life of the region. These include health care professionals, teachers, public sector personnel as well as construction workers. These are mid-level jobs that are the foundation of the community. A coming wave of retirements in fields such as nursing, construction and public administration means the demand for foundational jobs is growing.
- As industries evolve and labor force patterns shift, how is Silicon Valley's occupational distribution changing and what new opportunities are emerging?

#### Occupational shifts and growing mid-wage opportunity

- The number of mid-wage jobs in Silicon Valley has been shrinking in recent years-from 603,350 in 2002 to 541,300 in 2006. In 2002, mid-wage jobs comprised 52% of total jobs and 46% by 2006 (Figure 1). The percentage of higher-wage jobs remained relatively stable at 26% and 27%, while lower-wage jobs grew in share from 22% to 27% of the workforce over the four-year period.
- The story, however, is more complicated than the loss of mid-wage jobs in Silicon Valley. The region's 541,300 midwage jobs are distributed across 523 different occupations. Of all these occupations, half grew and half lost jobs between 2002 and 2006.



#### **Figure I**

Job Distribution by Low, Mid, and High Income Levels

Source: Occupational Employment Statistics

Note: Silicon Valley includes data for Santa Clara County and San Mateo County. Distribution based on inflation-adjusted median annual earnings Analysis: CEI



- Depicted in **Figure 2** is a selection of top growing and top declining mid-wage occupations in absolute numbers. Of all top growing mid-wage occupations, occupations with primary activities in the fields of Health, Construction and Information Technology (I.T.) Systems Support were most frequent. Overall, these are foundational occupations in that their primary activities serve the local population. In the case of IT Systems Support, as technology permeates the full extent of the economy, so too do occupations such as Computer Support Specialists.
- Gains and losses are taking place in foundational jobs as well as in jobs closely linked to export-oriented technology industries. In absolute numbers, mid-wage occupational growth between 2002 and 2006 was greatest for Electricians increasing by 2,200 and Plumbers increasing by more than 1,400 people. Medical Assistants, Biological Technicians and Computer Support Specialists each expanded their numbers by about 1,000 in Silicon Valley. In contrast, in addition to general administrative support positions, Semiconductor Processors and Electrical & Electronic Engineering Technicians were some of the occupations that shed the most jobs in Silicon Valley over the same four-year period.

The middle ground is shifting in several ways:

- Declining mid-wage occupations include general support jobs—such as Secretaries, General Office Clerks, and Customer Service Representatives.
- Other declining mid-wage jobs are special support occupations in the region's technology industries—such as Electrical Engineering Technicians and Semiconductor Processors.
- Biological Technicians are growing in number and are located in foundational jobs such as hospitals and medical labs as well as in the biotech industry.
- Growing mid-wage foundational occupations include Electricians, Plumbers and Medical Assistants.
- Important across the entire economy, Computer Support Specialists are critical to any business or organization employing information technology.

7

# THE 2008 INDEX

# AT A GLANCE

#### WHAT IS THE INDEX?

The Silicon Valley Index has been telling the Silicon Valley story since 1995. Released early every year, the indicators measure the strength of our economy and the health of our community—highlighting challenges and providing an analytical foundation for leadership and decision making.

#### WHAT IS AN INDICATOR?

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

#### **Good indicators:**

- are bellwethers that reflect fundamentals of long-term regional health;
- reflect the interests and concerns of the community;
- are statistically measurable on a frequent basis; and
- measure outcomes, rather than inputs.

Appendix A provides detail on data sources for each indicator.

#### WHAT IS AN INDUSTRY CLUSTER?

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

Appendix B identifies the specific subsectors included in each cluster.

# PEOPLE

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



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



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



Silicon Valley continues to attract foreign science and engineering students.

# ECONOMY

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



Silicon Valley **gained 28,000 jobs** 2006 QI to 2007QI

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

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

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











About the 2008 Index		01	
Map of Silicon Valley	02		
Table of Contents		03	
Special Analysis	04	07	
Index at a Glance	08	09	
PEOPLE	10	13	
ECONOMY	14	23	
SOCIETY	24	33	
PLACE	34	45	
TERGE		1.5	
GOVERNANCE	46	49	
Special Analysis continued	50		
Appendices	60	64	
Acknowledgments		65	

# **Talent Flows and Diversity**

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

### WHY IS THIS IMPORTANT?

- Silicon Valley's most important asset is its people. They drive the economy and shape the quality of life in the region. The region has benefited significantly from the entrepreneurial spirit of people drawn to Silicon Valley from around the country and around the world. In particular, immigrant entrepreneurs have contributed considerably to innovation and job creation in the region<sup>1</sup>.
- A region that can draw talent from other parts of the country and other regions of the world vastly expands its potential for closer integration with other innovative regions and thereby bolsters its global competitiveness.

#### **HOW ARE WE DOING?**

- With a net increase of 38,097 people, Silicon Valley's population increased by 1.5% in 2007. Since 2005, the region has had three consecutive years of expanding growth and has surpassed the State's growth rate for the second time in over a decade. Driving this increase is the change in net migration, which almost doubled from 8,404 to 15,163 in 2007—the second year with positive net migration since 2000. Net migration includes all legal foreign immigrants, residents who left the state to live abroad, and the balance of hundreds of thousands of people moving to and from the region from within the United States.
- The recent shift in net migration is due primarily to substantially lower domestic out-migration: about 75% fewer people left Silicon Valley in 2007 than 2006. This pattern is much different than the net total of 30,000 to 40,000 people who left annually between 2001 and 2003. Even during the economic downturn, net foreign inmigration has remained a constant source of new population and increased by 11% in 2007. Natural population change due to births and deaths has also remained stable.

# PEOPLE

- Silicon Valley has cultural ties around the world. Thirty-five percent of the region's residents were born in another country and they are more than twice as likely than U.S. residents to speak a language other than English. By 2006, almost half of the population over 5 years of age in these Counties (48%) speaks a language other than English at home—up from 45% in 2002. Moreover, this measure of language diversity has been growing at a faster rate in Silicon Valley than in California or the nation as a whole. Among those who speak a language other than English at home, the largest proportion speak an Asian or Pacific Islander language (49%), just ahead of the share of Spanish speakers (40%).
- An indication of the Silicon Valley's ability to attract and grow highlyeducated talent is its educational attainment level. More than four in ten residents over age 25 (44%) have at least a four-year degree, compared to 27% nationally. And two-thirds (68%) has had at least some college (including associate degrees and professional certifications). Roughly one-third (32%) has no more than a high school education, compared to 46% of the U.S. population.
- The area's universities are an important magnet for and source of highly-skilled talent. The number of science and engineering (S&E) degrees conferred by universities in or near Silicon Valley increased 25% between 1995 and 2005. Over this period, the proportion of S&E degrees received by foreign students rose from 13% to 17% much higher than the State as a whole or the nation. In absolute numbers, S&E degrees conferred to foreign students in the region rose by 3% in the most recent year.

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



37,332,976

37,771,431



Talent 10 - 13

#### ECONOMY 14 | 23

**SOCIETY** 24 | 33

**Net Migration Silicon Valley** 

California







+1.2%

Source: California Department of Finance Analysis: CEI



GOVERNANCE 46 | 49

Special Analysis continued 50 | 59

Appendices 60 | 64

Acknowledgments | 65

# **Talent Flows and Diversity**

# PEOP



\* Some College includes: Less than 1 year of college; Some college, 1 or more years, no degree; Associates degree; Professional certification Source: U.S. Census Bureau, American Community Survey Analysis: CEI

	Silicon Valley	United States
Some college or more	68%	54%
Bachelor's Degree or higher	44%	27%



2004		11,772
2005	+3%	,8 4

**Foreign Students** Percentage of Degrees in Engineering and Sciences Conferred to Temporary Nonpermanent Residents Silicon Valley, California, U.S. 20%)---17.3% 17.1% 16.8% 18% 15.3% 15.5% red 16% 14.7% : of Total S&E Degrees Confer 13.0% 14% 12.6% 12.7% 12% 10% 8% 6% Share 2% 0%)• 995 2002 2005 200 Silicon Valley California United States 0

Note: Data for 1999 not available Source: National Center for Education Statistics, IPEDS Analysis: CEI



# Innovation

Silicon Valley continues to be a strong player in innovation. Venture capital investment and patent activity are growing in clean technology. Broadband speed and penetration lag other global innovative regions.

### WHY IS THIS IMPORTANT?

- Innovation drives the economic success of Silicon Valley. More than just in technology products, innovation includes advances in business processes and business models. The ability to generate new ideas, products and processes is an important source of regional competitive advantage. To measure innovation, we examine the investment in innovation, the generation of new ideas, and the value-added across the economy. Additionally, tracking the areas of venture capital investment over time provides valuable insight into the region's longer term direction of development.
- Global connectivity is a measure of a region's innovative capacity and global competitiveness. The early adoption of technology is critical for achieving and maintaining a competitive edge, and broadband internet allows better access to newer technologies and quickly developing web-based services.

### How ARE WE DOING?

- Silicon Valley continues to push the frontiers of innovation. Value added per employee rose for the sixth straight year. For the second year value-added surpassed the previous high reached during the peak of the dotcom boom in 2000—suggesting widespread productivity gains.
- Patent activity reached all-time highs in 2006. The region's cities now account for 11 of the top 20 U.S. cities for patent registrations. Patents per capita also took a huge leap in 2006—up 24% in one year—the biggest increase in a decade. Silicon Valley exceeded the nation by more than 14 times. In the realm of green technology, the Valley accounted for 23% of all California's patents in 2006. Activity is primarily in batteries, solar technology and fuel cells.
- Silicon Valley is closely connected to innovative regions around the world allowing it to leverage talent and resources located outside the region. Collaboration with foreign inventors grew 3% as measured by patent registrations with local and foreign inventors. Further, the region's firms in the most globally competitive industries such as software and high-tech manufacturing have established affiliates in the fastest growing regions of Asia and in Europe with vast pools of talent.
- Venture capital (VC) investments are up almost 11%, comparing totals from the first three quarters of 2006 and 2007. If the current trend continues, Silicon Valley will for the first time receive 30% of the nation's total venture capital funding—a much higher share than during the dotcom boom. Tracking VC investment trends, Silicon Valley's top investment growth is in energy and in medical devices. Rebounding since the downturn, investment is growing again in telecom and networking equipment. Software continues to attract the most investment and is now followed by medical devices.
- In Cleantech VC investment in 2007, Silicon Valley alone accounted for 62% of California and 21% of U.S. investment. Over 2006, investment in the Valley expanded by 94% and in the rest of the State only by 7%. The bulk of this investment was in energy generation followed by transportation.

# ECONO



#### Rate of Increase

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



Patent counts reported here refer to all patents with an inventor from Silicon Valley, regardless of sequence number of inventor Source: U.S. Patent & Trade Office Analysis: CEI

Silicon Valley's inventors are

collaborating with foreign inventors

at an increased rate

Share of patents with SV inventorsthat also have foreign co-inventors:5%20058%2006



of U.S. patents



or Patents						
egistered Patents – 2006						
San Jose	2325					
Austin	1431					
San Diego	1138					
Sunnyvale	1081					
Boise	1072					
Palo Alto	922					
Fremont	815					
Houston	800					
Cupertino	733					
Mountain View	716					
San Francisco	676					
Santa Clara	532					
Irvine	449					
Plano	443					
Los Altos	442					
Saratoga	389					
Dallas	363					
Los Angeles	359					
Menlo Park	346					
20 Los Gatos 327						
	Patents Patents - 2006 San Jose Austin San Diego Sunnyvale Boise Palo Alto Palo Alto Palo Alto Cupertino Mountain View San Francisco Santa Clara Irvine Plano Isos Altos Saratoga Dallas Los Angeles					

01	About the 2008 Index
02	Map of Silicon Valley
03	Table of Contents
04   07	Special Analysis
08   09	Index at a Glance

#### PEOPLE 10 | 13

Innovation 14 - 19	ΥM
Employment 20-21	0 N O
Income 22-23	Ŭ

#### **SOCIETY** 24 | 33



# Innovation

# ECONO





Source: PricewaterhouseCoopers/National Venture Capital Association MoneyTree<sup>TM</sup> Report based on data from Thompson Financial Analysis: CEI

Share of USVC coming to SV
2000: 21%
2006: 29%
2007\*: 27%



MoneyTree<sup>TM</sup> Report based on data from Thompson Financial Analysis: CEI

#### Venture Capital Investment in Silicon Valley by Industry 100% Other Computers and Peripherals 90% 80% IT Services 70%) Media and 60% orking and 50% -40%)niconductors 30% ---Software 20% ---Highlighted fields 10% indicate longer term areas

Venture Capital by Industry

2002 2003 2004 2005 2006 2007\* Source: PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ Report based on data from Thompson Financial Analysis: CEI

### Top Growers

- Industrial/Energy
- Medical Devices
  - & Equipment

# Rebounding

• Telecom

of growth

\* Current as of Q3 2007

• Networking & Equipment

# Medical Devices & Equipment

replaced **Semiconductors** as **2nd largest share** of total VC investment in Silicon Valley

0%



China PRC Germa

5

Cana

South

half are in Asia

Source: Uninworld Business Publications

Semiconductor and Other Electronic Component Manufacturing

Software Publishers

Analysis: CEI

# ECONO

# HOW ARE WE DOING?

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

#### Home Broadband Penetration





Note: Broadband download speeds equal to, or faster than, 200 kbit/sec (Source: U.S. FCC)

Source: Jed Kolko, 2007, "Broadband for All? Gaps in California's Adoption and Availability," *California Economic Policy*, Vol. 3, No. 2 (July 2007). San Francisco: Public Policy Institute of California. Survey results: Forrester Research



Note: Broadband download speeds equal to, or faster than, 200 kbit/sec (Source: U.S. FCC) Source: Jed Kolko, 2007, "Broadband for All? Gaps in California's Adoption and Availability," *California Economic Policy*, Vol. 3, No. 2

(July 2007). San Francisco: Public Policy Institute of California. Survey results: Forrester Research

MY



 Note: Broadband download speeds equal to, or faster than, 256 kbit/sec (Source: U.S. FCC)

 \* 2005 Data
 \*\* Broadband download speeds equal to, or faster than, 200 kbit/sec (Source: U.S. FCC)

 Sources: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2007.

 Jed Kolko, 2007, "Broadband for All? Gaps in California's Adoption and Availability," *California Economic Policy*, Vol. 3, No. 2 (July 2007).

 San Francisco: Public Policy Institute of California. Survey results: Forrester Research

Special Analysis continued 50 | 59

Appendices 60 | 64

Acknowledgments | 65

# Employment

in 2007. Nonetheless Silicon Valley's employment growth outpaced that of the State and U.S. Structurally, employment shares are

### WHY IS THIS IMPORTANT?

Tracking job gains and losses is a basic measure of economic health. Shifting employment across industries suggest structural changes in Silicon Valley's economic composition. Over the course of the business cycle, employment shifts across industries and permanent shifts as entire industries grow or shrink expose structural changes in Silicon Valley's economic composition. Recent attention has been focused on the growing activities in the "green economy." While establishment-based employment provides the broader picture of the region's economy, observing the employment and unemployment rates of the population residing in the Valley reveals the status of the immediate Silicon Valley-base workforce.

### **HOW ARE WE DOING?**

- For the third year in a row, the Valley experienced job gains growing by 1.7% over the previous year (2006 Q2). For the first time, employment data reported in the 2008 Index reflect an expanded geographic definition of Silicon Valley including all of San Mateo County. Final estimates for the first quarter of 2007 over 2006 show a gain of 28,000 jobs and regional growth of 2.1% which is well ahead of 0.9% growth in the rest of the State and 1.4%in the U.S.
- Structural change is evident in the shift in employment distribution across the region's core cluster industries. From 1996 to 2006, the share of core cluster employment in semiconductors dropped 8% and 5% in hardware as well as electronic components. Employment shares in software and services in design and innovation support have expanded the most increasing 13% and 4% respectively. Employment shares in biomedical grew by 1%.
- Growth in "green establishments," businesses producing products and offering services that directly or indirectly reduce environmental degradation and specifically the generation of greenhouse gas emissions, is taking place throughout the State. The analysis of "green establishments" is based on the definition of "cleantech" developed by the Cleantech Network encompassing as new technology and processes across a range of industries that enhance efficiency, reduce or eliminate negative ecological impact, and improve the productive and responsible use of the natural resources. See for specific industry segments. Although establishment growth is similar, since 2000 Silicon Valley's number of green jobs has increased by 41% compared to 17% in the rest of the State. This suggests that the region's green establishments are larger. Of the Valley's green establishments, 43% are concentrated in energy generation (e.g. solar and wind product manufacturing and installation services) and 39% in energy efficiency (e.g. manufacturing and sales of products and materials that conserve energy).



Silicon Valley: 2.1%

#### **Industry Cluster Employment**

**Rest of CA**: 0.9%

Cluster Employment in Fourth Quarter 2006 Silicon Valley Cities





Source: California Employment Development Department

<sup>&</sup>lt;sup>2</sup> For the first time, employment data reported in the 2008 Index reflect an expanded geographic definition of Silicon Valley including all of San Mateo County.

The analysis of "green establishments" is based on the definition of "cleantech" developed by the Cleantech Network encompassing as new technology and processes across a range of industries that enhance efficiency, reduce or eliminate negative ecological impact, and improve the productive and responsible use of the natural resources. See www.cleantechnetwork.com for specific industry segments.





Analysis: CEI

# About the 2008 Index 0 Map of Silicon Valley 02 Table of Contents 03 Special Analysis 04 07 Index at a Glance 08 09

#### PEOPLE 10 | 13

Innovation  4 –  9	Σ
Employment 20-21	ONO
Income 22-23	ШС ШС

#### **SOCIETY** 24 | 33



Source: National Establishment Time Series Database Analysis: CEI

#### PLACE 34 | 45



Source: National Establishment Time Series Database

Analysis: CEI

# Income

While incomes appear to be rising in Silicon Valley, the cost of living in the region is also on the rise.

### WHY IS THIS IMPORTANT?

- Earnings growth is as important a measure of Silicon Valley's economic vitality as job growth. A variety of income measures presented together provides an indication of regional prosperity and the distribution of prosperity.
- Real per capita income rises when a region generates wealth faster that its population increases. Household income distribution tells us more about concentrations of income, and if economic gains are reaching all members of the region. The median household income is the income value at the middle of all income values.

### HOW ARE WE DOING?

- Real per capita income in Silicon Valley is 57% higher than the U.S. average. The cost of living—including housing—is 47% higher than that of the nation. Since 2003, the region's real per capita income has grown faster than that of the United States as a whole—rising 12% compared to 10% for the nation. Silicon Valley's real per capita income was only higher in the peak year of 2000.
- Median household income increased modestly in Silicon Valley in 2006. Between 2005 and 2006, real median household income rose 2% and now stands at \$82,486. In contrast, U.S. household income has remained stagnant since 2000. While median household income has been growing in the region, living expenses such as housing, food, and transportation are high. According to the affordability benchmark developed by the California Budget Project, a two-worker family in the Bay Area<sup>4</sup> needs to earn \$77,076 to cover the basic family budget. This means that in order for a two-worker family to reach the threshold of middle class living, at least one worker must have a mid-wage level job.
- Overall, Silicon Valley has a much higher proportion of households earning \$100,000 or more (39%) compared to either California (25%) or the nation as a whole (18%). The region also has a much lower share of households making less than \$35,000 (21%) than the State (31%) or the nation (36%). The distribution of household income is trending upwards, as it is in both California and the United States as a whole. The percentage of households earning less than \$35,000 in Silicon Valley has been declining since 2004, while the share of households making \$100,000 or more has been increasing since 2003. The proportion of households earning between \$35,000 and \$100,000 has held relatively steady during this time.

<sup>4</sup>The California Budget Project defines the Bay Area as Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma Counties.

# Real Per Capita Income 2007 Dollars — Santa Clara & San Mateo Counties and U.S \$70,000 \$000 \$60,000 \$000 \$0000 \$000 \$0000 \$000 \$0000 \$000 \$0000 \$000 \$0000 \$000 \$0000 \$000 \$0000 \$000 \$0000 \$000 \$0000 \$000 \$0000 \$000 \$0000 \$000 \$0000 \$000 \$000 \$0000 \$000 \$000 \$0000 \$000 \$000 \$0000 \$000 \$000 \$0000 \$000 \$000 \$0000 \$000 \$000 \$0000 \$000 \$000 \$0000 \$000 \$000 \$0000 \$000 \$000 \$0000 \$000 \$000 \$0000 \$000 \$000 \$0000 \$000 \$000 \$0000 \$000 \$000 \$0000 <td

Silicon Valley 12%

United States 10%



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







#### The cost of living in Silicon Valley

including housing is

47% higher than the nation

#### GOVERNANCE 46 | 49

Special Analysis continued 50 | 59

Appendices 60 | 64

Acknowledgments | 65

# **Preparing for Economic Success**

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

# WHY IS THIS IMPORTANT?

- The future success of the region's young people in a knowledge-based economy will be determined largely by how well elementary and secondary education in Silicon Valley prepares its students for higher levels of education. In 2004, school funding in Santa Clara County was 88% of the national average. Although higher for California (93%), Santa Clara County has been bridging the gap with the nation at a faster pace than the State.
- How well the region is preparing its youth for postsecondary education can be observed in graduation rates and the share of graduates completing courses required for entrance to the University of California (UC) or California State University (CSU). Likewise, high school drop-outs are significantly more likely to be unemployed and earn less when they are employed than high school graduates.

### How ARE WE DOING?

- Preliminary figures for 2006-07 indicate that Silicon Valley's high school graduation rate dropped 3% to 84% over 2005-06. Every district and the County of Santa Clara experienced an overall decline in the number of graduates. The share of graduates who met UC/CSU entrance requirements dropped slightly.
- The distribution of graduates meeting UC/CSU requirements by race/ethnicity reveals that some groups are less prepared to enter college upon graduation. Only 23% of Latino and 22% of African American graduates met UC/CSU requirements compared to 62% of Asians and 52% of Whites.
- Overall, drop-out rates of 13% were similar to the previous year. Although Latino students are most likely of all groups to leave school before graduating, drop-out rates for this group are slowing.

# SOCIETY

#### High School Graduation





The graduation rate

fell 3% in 2006/2007



\* Preliminary Data

Source: California Department of Education, Silicon Valley School Districts



Source: California Department of Education, Silicon Valley School Districts

About the 2008 Index | 01 Map of Silicon Valley 02 | Table of Contents 03 Special Analysis 04 | 07 Index at a Glance 08 | 09 PEOPLE 10 | 13

#### ECONOMY 14 23

Economic Success 24 - 25 Early Education 26 - 27 Arts and Culture 28 - 29 Health 30 - 31 Safety 32 - 33

#### PLACE 34 | 45

0

High School Dropout Rates Silicon Valley High Schools 20%)-16%)-13% 12% **I 3**% 12% 8%) % 8 % 8 **% % %** 4%)-2% 0%



<sup>\*</sup>Preliminary Data

Source: California Department of Education, Silicon Valley School Districts

#### GOVERNANCE 46 | 49

- Special Analysis continued 50 | 59
  - Appendices 60 | 64
  - Acknowledgments | 65

# **Early Education**

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

# WHY IS THIS IMPORTANT?

- When children are subject to positive early childhood experiences that enhance their physical, social, emotional and academic wellbeing and skills, they enter school ready to learn and are more likely to perform better in later school years. Preschool attendance is linked to higher kindergarten readiness. How prepared children are when they enter kindergarten relative to teacher expectations is an indication of children's readiness for school and future school success.
- Children's school success is in part a function of increasing literacy. Research shows that children who read well in the early grades are far more successful in later years; and those who fall behind often stay behind when it comes to academic achievement (Snow, Burns and Griffin, 1998). Success and confidence in reading are critical to long-term success in school.

### HOW ARE WE DOING?

- Silicon Valley's very young children typically experience a variety of care settings before entering kindergarten, and over half are cared for by a stay-at-home parent. The percentage of in-coming kindergartners with some preschool experienced increased by 7% in 2006 over 2004.
- Although fewer than half of Santa Clara County's preschoolers were considered prepared for kindergarten in terms of their overall physical, social and academic readiness<sup>5</sup>, the proportion of children deemed "significantly below" the desired levels of proficiency for overall readiness dropped from 22% to 16% of all kindergartners between 2005 and 2006 (data was not collected for San Mateo County during this period).
- Children were most prepared in the areas of self-care and motor skills and least prepared in kindergarten academics and self-regulation. Kindergarten teachers identify self-regulation skills (e.g., pays attention, controls impulses, plays cooperatively) as the skills children need most when they enter school. In 2006, more than one in five children fell significantly below teacher expectations in terms of self-regulation skills. Kindergarten Academics reflects a child's ability to engage with books and recognize letters among other skills. The share lacking kindergarten academics also dropped from 20% to 11% between 2005 and 2006.
- The reading proficiency of Silicon Valley third graders decreased slightly in 2007-after experiencing increases the prior two years. In 2007, the share of students scoring above the national median decreased from 49% to 48%. The percentage in the lowestscoring quartile rose from 26% to 28% of third graders.
- Large disparities exist by race and ethnicity. For example, forty-six percent of Latino third-graders scored in the lowest quartileand eight in ten (78%) scored below the national median for reading proficiency. In contrast, seven in ten (70%) of white students scored above the national median-with 39% scoring in the top quartile.

#### **Childcare Arrangements**



\*A formal curriculum-based childcare center

Norma conficuence control of the con

Preschool experience 2004-2006



Source: Peninsula Community Foundation, Santa Clara County Partnership for School Readiness. United Way Silicon Valley, Applied Survey Research



Special Analysis continued 50 | 59

Appendices 60 | 64

Acknowledgments | 65

<sup>\*</sup>Cambodian, Samoan and Laotian not included due to small number of observations Source: California Department of Education Analysis: CEI

# Arts and Culture

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

# WHY IS THIS IMPORTANT?

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

#### How ARE WE DOING?

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

# SOCIETY



#### Growth 2000-2005:

+37% Silicon Valley

+28% Rest of CA





Economic Success

Arts and Culture 28 – 29

24 – 25 Early Education 26 – 27 **OCIET** 

Source: National Center for Charitable Statistics, Core Trend File Analysis: CEI

				/esting	in the	Arts						V)
	Arts & Cultural Nonprofit Organizations Median Revenue, Expenses and Contributions								Health 30 – 3 I			
	Silicon Valley									Safety 32 – 33		
	\$ 150,000											
-13% Revenues	140,000											
- 17% Expenses	130,000											
• • • • •	120,000										PLACE	34   45
-U3% Contributions	110,000											
	100,000											
	90,000							••••				
	000,08											
	<sup>1</sup> 70,000 ····			••••								
	60,000			••••								
	50,000											
	40,000	00		o0	<b>*</b>	ĭ	🏹	- <b>0</b>	o (	• ··		
	30,000											
	20,000			••••		•••					GOVERNANCE	46   49
	10,000											
	0											
		1995	1997	1998	2000	2001	2002	2003	2004	5002	Special Analysis continued	50   59
											Appendices	60   64
		Median	Revenue	Media	n Expenses						Acknowledgments	l 65

O—— Median Contributions\*

\*Includes contributions made by individuals and groups as well as government grants Source: National Center for Charitable Statistics, Core Trend File Analysis: CEI

# Health

Core indicators for the health of the region's residents suggest quality of health is not improving. While access to health insurance has improved for some population groups, overall access is narrowing.

### WHY IS THIS IMPORTANT?

- Poor health outcomes generally correlate with poverty and poor access to preventative health care and education. Early and continued access to quality, affordable health care is important to ensure that Silicon Valley's residents are healthy and prosperous. For instance, timely childhood immunizations promote long-term health, save lives, prevent significant disability and reduce medical costs. Health care is expensive, and individuals with health insurance are more likely to seek routine medical care and to take advantage of preventative health-screening services.
- Over the past two decades, obesity has risen dramatically in the United States and its occurrence is not just limited to adults—the percentage of young people who are overweight has more than tripled since 1980. Being overweight or obese increases the risk of many diseases and health conditions, including Type 2 diabetes, hypertension, coronary heart disease, stroke and some type of cancers. These conditions have a significant economic impact on the nation's health care system as well as the overall economy due to declines in productivity.

### How ARE WE DOING?

- The rate of immunization for children ages 19-35 months has not improved over that last decade in Santa Clara County or the state as a whole<sup>6</sup>. Progress is not being made toward the Healthy People 2010 Goal of 90% of the U.S. Department of Health and Human Services.
- Access to health insurance varies widely within the Silicon Valley population. Remaining constant since 2001, 96% of residents primarily speaking English at home have health insurance. Chinese speakers made the most positive gains in coverage rates from 74% in 2001 to 93% four years later. Coverage rates for Spanish and Vietnamese speakers have declined since 2001, dropping to roughly seven in ten residents by 2005. English and Chinese speakers are also more likely to have employer-based coverage.
- Asthma continues to affect more than one in ten Silicon Valley residents. And the proportion of the population in Santa Clara and San Mateo Counties diagnosed with asthma has grown since 2001.
- Since 1999, the proportion of youth who fall into the "Health Fitness Zone" has improved primarily for younger students. The percentage of Fifth Graders who meet the fitness zone criteria increased 11% since 1999. This measure is based on national standards developed by the Cooper Institute for Aerobics Research to represent a level of fitness that offers some degree of protection against diseases that result from sedentary living.

# SOCIETY

#### Rate of Immunization





Source: Center for Disease Control, National Center for Health Statistics Analysis: CEI

Immunization rates **have not improved** over the last decade in Silicon Valley or CA

# Healthy People 2010 Goal:

**9**0%



Analysis: CEI







Source: UCLA Center for Health Policy Research, California Health Interview Survey Analysis: CEI • For residents under 65 years old

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



PLACE 34 | 45

Economic Success

Early Education

24 – 25

26 – 27 Arts and Culture

28 – 29

Health

30 – 31

Safety

32 - 33

01

| 03

\*For adults, "Overweight or obese" includes the respondents who have a BMI of 25 or greater. For adolescents, "Overweight or obese" includes the respondents who have a BMI in the highest 95th percentile with respect to their age and gender. Source: UCLA Center for Health Policy Research, California Health Interview Survey



\*All adults and children I year of age or older who have ever been diagnosed with asthma. Source: UCLA Center for Health Policy Research, California Health Interview Survey Analysis: CEI



Special Analysis continued 50 | 59

Appendices 60 | 64

Acknowledgments | 65

# Safety

Juvenile offenses as well as substantiated cases of child abuse are on the rise each at a faster rate than in the State as a whole. While youth drug offenses are up, county treatment facilities are providing services to larger numbers of youth and adult clients.

# WHY IS THIS IMPORTANT?

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

#### How Are We Doing?

- The rate of substantiated cases of child abuse in Silicon Valley rose again in 2006, while the rate for California continued to decline slightly. California's rate is much higher than Silicon Valley's, but this gap has been steadily narrowing since 2002. In fact, the rate of child abuse in Silicon Valley has increased every year since 2003.
- The rate of juvenile felony offenses rose in Silicon Valley for the fourth consecutive year and remains on par with California. Prior to 2005, Silicon Valley's rate of juvenile felony offenses was consistently below that of California every year since 1996—the first year this measure was included in the Index of Silicon Valley. A subset of overall juvenile felony offenses, juvenile felony drug offences have now increased two years in a row (2006 and 2007) after four consecutive years of decline.
- In contrast, the region's rate of adult felony offenses continues to be well below that of California—and decreased in 2006 for the first time since 2003. The most recent data on adult felony drug offenses (FY2007) also indicate a drop for the first time since 2003.
- Generally, there has been an increase in both adult and juveniles being served by county drug and alcohol rehabilitation programs relative to 2000. This can be explained in part by the passage of Proposition 36 in 2000, which is a law that diverts non-violent defendants, probationers and parolees charged with simple drug possession or drug use offenses, from incarceration into substance abuse treatment programs. Treatment is paid for primarily through state funding and is provided in several formats, ranging from nonresidential to residential to acute care services.

# SOCIETY

#### Child Abuse Substantiated Cases of Child Abuse per 1,000 Children



Source: UC Berkeley Center for Social Services Research, Child Welfare Services Analysis: CEI

#### Casse

2005	2006	% change
3,964	4,231	7%



\*Felony offenses include violent, property, and drug offenses Source: California Department of Justice Analysis: CEI

Silicon Valley juvenile felony offenses per 100,000 **increased 23%** since 2002 compared to a **6% decline** in California



Source: California Department of Justice; Santa Clara County Department of Alcohol & Drug Services; Alcohol & Drug Services Research Institute; San Mateo County Human Services Agency, Business Systems Group



Economic Success 24 – 25 Early Education 26 – 27 Arts and Culture 28 – 29 Health 30 – 31 SOCIETY



Source: California Department of Justice; Santa Clara County Department of Alcohol & Drug Services; Alcohol & Drug Services Research Institute; San Mateo County Human Services Agency, Business Systems Group

Special Analysis continued 50 | 59

Appendices 60 | 64

Acknowledgments | 65

# Environment

Progress is underway in improving the region's environmental quality. Residents are beginning to change their habits in how they go to work, what kinds of vehicles they drive and how they generate their energy. While residents are conserving more water, they are consuming greater amounts of electricity.

# WHY IS THIS IMPORTANT?

- Environmental quality directly affects the health of all residents and the ecosystem in the Silicon Valley region, which is in turn affected by the choices that residents make about how to live—how we choose to access work, other people, goods and services; where we build our homes; how we use our natural resources; and how we enforce environmental guidelines.
- Preserving open space protects natural habitats, provides recreational opportunities, focuses development, and maintains the visual appeal of our region. Protected lands include habitat and wildlife preserves, waterways, agricultural lands, flood control properties, and parks.
- Water is one of the region's most precious resources, serving a multitude of needs, including drinking, recreation, supporting aquatic life and habitat, and agricultural and industrial uses. Water is also a limited resource because water supply is subject to changes in climate and state and federal regulations. Sustainability in the long-run requires that households, workplaces and agricultural operations efficiently use and reuse water.
- The modes of transportation we use to access work, other people, goods, and services, including the type of cars we drive, impact the quality of our air and the region's transportation infrastructure. Motor vehicles are the major source of air pollution for the Bay Area. By utilizing alternative modes of transportation, such as public transit and walking, as well as choosing vehicles that are more fuel efficient or use alternative sources of fuel, residents can reduce their ecological footprint.
- Shifting from carbon-based fuels to renewable energy sources and reducing consumption together have the potential for widereaching impact on our environmental quality in terms of local air quality and global climate change.

# HOW ARE WE DOING?

- Open space and the share that is accessible to the public continue to Open space and the share that is accessible to the public continue to increase, due in part to concerted efforts by the Mid-Peninsula Regional Open Space District and the Land Trust of Santa Clara County. From 2002 to 2007, protected open space in Silicon Valley grew by 5% or 10,074 acres. Even more land is becoming accessible to the public: protected accessible lands increased by 13% or 17,462 acres in the past five years. The region has added protected open space and protected accessible lands at a much higher rate than urban/developed land, which grew just over 1% between 2002 and 2007.
- With the exception of FY 2003-2004, total per capita water-use in Silicon Valley has declined by 6% since 2000. Almost doubling since 2000, 3.5% of total consumption is from recycled water. Years with significant precipitation result in lower water-use largely due to landscaping needs. However, the increase in recycled wateruse suggests that conservation efforts could also be contributing to changing patterns in water-use.
- Residential electricity consumption has risen in Silicon Valley. Since 2000 per capita residential consumption increased by 5.8% in Silicon Valley while in the rest of the State it increased by only 1.8%. Increased residential consumption in the State is related to the energy required to cool increasingly larger homes and run the growing number and size of household electronics.
- The region is producing more renewable energy. As of 2007, with about 7% of the State's population, Silicon Valley accounts for 13% of the renewable energy produced by solar and wind systems in California. Moreover, between 2006 and 2007, the region increased its amount of renewable energy (as measured by kilowatts added through approved state rebates) by 21%--faster than California's 17% gain.

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





Gross Per Capita Consumption (GPCPD) O-Percentage of Total Water Used that is Recycled

# PLACE

# HOW ARE WE DOING?

- Silicon Valley remains an automobile-dependent region, although this pattern may be slowly changing. Despite the fact that the total number of vehicles in Silicon Valley went up, total vehicle miles traveled has not increased since 2000. Some of this change is likely driven by higher gas prices in recent years, and some people have turned to alternatives. Transit ridership increased by 3.4% from 2006 to 2007. While most commuters still drive alone to work, in 2006 this figure reached its lowest level since 2002. By 2006, 25% of workers were employing some alternative to driving alone to work. The largest change in recent years has been in the share of commuters working from home. In 2006, roughly 53,000 residents worked from home—an increase of 46% since 2002 when about 36,400 Silicon Valley residents worked from home.
- Although the region remains automobile-dependent, the fuel efficiency of vehicles is also gradually changing. The number of alternative fuel vehicles in Silicon Valley increased 57% from 2004 to 2005. By 2005, the share of operational vehicles in the region running on alternative fuels was 1.4%, up from 0.9% in 2004. The growth was due mainly to the increased use of hybrid vehicles: as of 2005, there were about 10,000 hybrid vehicles registered in Silicon Valley, or about 11% of the California total. In addition, the average fuel efficiency of passenger vehicles has been increasing every year since 2000—with a jump in the rate of increase in 2006. Overall, on a per capita basis, residents of Silicon Valley reduced their fuel consumption 9% between 2000 and 2006, while Californians as a whole maintained their consumption level.
- Related to automobile use and fuel consumption, Silicon Valley has made significant improvements in ozone pollution, achieving a reduction of 75% in 2005 from 1998. In contrast, 2005 was the first year of progress for the State as a whole dropping by 10% from 1998 levels. From 2004 to 2005, the number of days exceeding state standards for ozone pollution dropped from 10 to 5 days.



\*Note: Gas Prices are Average Annual Retail Gas Prices for California

Source: Energy Information Administration, Petroleum Marketing Annual; California Department of Transportation, California Motor Vehicle Stock, Travel and Fuel Forecast Analysis: CEI





home to work during the reference week. Source: U.S. Census Bureau, American Community Survey

Analysis: CEI

ACE

# Environment



Hybrid vehicles in Silicon Valley make up 11% of all such vehicles in California



\*Includes hybrid and electric vehicles as well as vehicles running on all alcohol based and gaseous noncarbon fuels. Does not include diesel engine vehicles. Source: California Department of Motor Vehicles Analysis: CEI

Alternative Fuel Vehicles\*

The number of alternative fuel vehicles in Silicon Valley increased by 57%

from 2004 to 2005



gallon 2000-2006:

California: +0.4%

Source: California Air Resources Board Analysis: CEI



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

Percent Change Per Capita Fuel Consumption	e
	2000-2006
Silicon Valley	<b>-9.00</b> %
Rest of California	-0.04%



 Table of Contents
 03

 Special Analysis
 04 | 07

 Index at a Glance
 08 | 09

 PEOPLE
 10 | 13

 ECONOMY
 14 | 23

 SOCIETY
 24 | 33

About the 2008 Index

Map of Silicon Valley 02

01

Environment 34 – 39 Land Use 40 – 41 Housing 42 – 43 Commercial Space 44 – 45

#### GOVERNANCE 46 | 49

Special Analysis continued 50 | 59

Appendices 60 | 64

Acknowledgments | 65

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

# Land Use

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

# WHY IS THIS IMPORTANT?

By directing growth to already developed areas, local jurisdictions can reinvest in existing neighborhoods, use transportation systems more efficiently, and preserve the character of adjacent rural communities. Focusing new commercial and residential developments near rail stations and major bus corridors reinforces the creation of compact, walkable, mixed-use communities linked by transit. This helps to reduce traffic congestion on freeways and preserve open space near urbanized areas. By creating mixeduse communities, Silicon Valley gives workers alternatives to driving alone and increases access to jobs.

# HOW ARE WE DOING?

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



Density of newly approved housing **dropped 7%** from 2006 to 2007





# Housing

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

# WHY IS THIS IMPORTANT?

The affordability of housing affects a region's ability to maintain a viable economy and high quality of life. Lack of affordable housing in a region encourages longer commutes, which diminish productivity, curtail family time and increase traffic congestion. Lack of affordable housing also restricts the ability of crucial service providers such as teachers, registered nurses and police officers—to live in the communities in which they work.

# HOW ARE WE DOING?

- The 571 new affordable units approved for construction in 2007 was 27% lower than in 2006, and the lowest number since the beginning of the survey in 1998. The share of new residential units that are affordable represent 10% of all new units dropping slightly from 11% in 2006.
- Apartment rental rates rose 7% from 2006 to 2007—faster than the 5% recorded between 2005 and 2006. 2007 marked the second straight year of rising rental rates after several years of decline. Factors that could be continuing to drive the increase in average rents include the region's high housing prices combined with the slowdown in home appreciation that may be deterring renters from pursuing homeownership, as well increases in job growth and a dwindling supply of apartments. Rents increased more than twice as fast as median household income—which grew 2% between 2005 and 2006.
- Home affordability has continued to decline in Silicon Valley. In just four years, the percentage of potential first time home buyers that can afford to purchase the median-priced home has dropped by half—from 44% in 2003 to 22% in 2007. Other California regions and the state as a whole have also experienced substantial drops in affordability. In fact, Los Angeles has become less affordable than Silicon Valley during this period.
- The share of the total home price that is paid as the down-payment has been on the rise since the mid 1990s, and in 2007 jumped in Silicon Valley and dropped in the State as a whole. In 2007, the typical down-payment for a home purchase was 26% of total price, up 1.4% from 2006.
- Residential foreclosure activity in Silicon Valley, measured by the annual percentage increase in the number of residential foreclosure sales, continued to climb. Over the 2006-2007 period, the rate of growth in foreclosures has skyrocketed—increasing 317% in California and 225% in Silicon Valley. The number of foreclosure sales has increased from 378 to 1,229 between 2006 and 2007. Foreclosures occur when homeowners cannot meet their mortgage payments. Thus, an increase in foreclosures is an indication of financial stress among households due to any variety of factors, including job loss, income decline, and adjustments of variable rate mortgages.

# PLACE

#### Building Affordable Housing

Total New Housing Units Approved, Including New Affordable Housing Units Silicon Valley



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

Share of new housing that is affordable 2006 | |% 2007 | 0%



Source: Real Facts, United States Census Bureau, American Community Survey Analysis: CEI

Rental rates rose 7%

from 2006 to 2007



# **Commercial Space**

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

# PLACE

### WHY IS THIS IMPORTANT?

This indicator tracks the supply of commercial space, rates of commercial vacancy, and cost, which are leading indicators of regional economic activity. In addition to office space, commercial space includes R&D, industrial, and warehouse space. The change in the supply of commercial space shows the impact of absorption and new construction added. A negative change in the supply of commercial space shows a tightening in the commercial real estate market. The vacancy rate measures the amount of space that is not occupied. Increases in vacancy, as well as declines in rents, reflect slowing demand relative to supply.

# HOW ARE WE DOING?

- Silicon Valley's demand for commercial real estate market continues. The rate at which commercial space is being absorbed continues to outstrip new construction added for the third year in a row although slowing slightly. The overall annual rate of commercial vacancy declined for the fourth year in a row, but remains well above the very-low vacancy rate experienced during the economic peak in 2000. In 2007, vacancy rates varied across all types of commercial space—from R&D (11.5%) and office (8.3%) to industrial (4.4%) and warehouse (3.4%). In all cases, while vacancies rates have fallen in recent years, in 2007 the rate of decline slowed slightly.
- Rental rates were up again in 2007—the first time commercial rents have increased two straight years in all categories—office, R&D, industrial, and warehouse sectors—in a decade. In fact, in 2007, office and R&D sectors experienced their biggest increase in average asking rent since 2000.



\* as of October 2007

Note: Commercial space includes office, R&D, industrial and warehouse space Source: Colliers International Analysis: CEI





The vacancy rate for commercial space **declined 1.3%**, but remains **6.5 times the rate** than in 2000

Environment	
34 – 39	
Land Use	
40 – 4 I	
Housing	
42 – 43	
Commercial Space	

. 44 – 45 PLACE

#### GOVERNANCE 46 | 49

Special Analysis continued 50 | 59

Appendices 60 | 64

Acknowledgments | 65

\* as of October 2007 Source: Colliers International Analysis: CEI

# **Civic Engagement**

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

# WHY IS THIS IMPORTANT?

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

### How Are We Doing?

- Especially since the downturn there has been strong growth in Silicon Valley's nonprofit sector. Between 2000 and 2005, the number of public charities grew by 27%, and the number of private foundations grew by 29%. The primary activities of the region's nonprofits are most concentrated in the areas of human services and education. Since 2000, the strongest growth in the number of nonprofits has been in the arts which grew by 37% over the five years. With increases of 31% each, international and religious organizations followed in growth in total numbers.
- The percentage of residents who vote has increased since the beginning of the decade when presidential election years (2000, 2004) and gubernatorial election years (2002, 2006) are compared. However, the biggest change in the past decade is how residents participate in the political process. More voters now vote absentee than go to the polls—increasing from 24% to 68% of voters in Silicon Valley between 1998 and 2007. Since 1999, the percentage of voters in Silicon Valley declaring a party affiliation has continuously dropped from 84% to 77%—and remains lower than the state average.

# GOVERN

#### Voter Participation



Source: California Secretary of State, Elections E Analysis: CEI



# Growth in Nonprofits

2000-2005	Silicon Valley	Rest of California
Public Charities	+27%	+26%
Private Foundations	<b>+29</b> %	+41%

# ANCE



Community Engagement/Charitable Activity Nonprofit Organizations in Silicon Valley 2005 • 2% •3% International, Foreign Affairs 31% 6% Environment Religion Health • 9% Public & Societal Benefit Arts, Culture & Humanities .12% Education Human Services 25% 12% Source: National Center for Charitable Statistics, Core Trend File

# Top Growth in Nonprofit Organizations

### 2000-2005

Analysis: CEI

Arts, Culture & Humanities	+37%
International, Foreign Affairs	<b>+31</b> %
Religion	+31%

Index at a Glance	08   09
PEOPLE	10   13
ECONOMY	14   23
SOCIETY	24   33
PLACE	34   45

About the 2008 Index

Map of Silicon Valley 02 |

Special Analysis 04 | 07

Table of Contents

01

| 03

Civic Engagement 46 – 47 Revenue	GOV.
48 – 49	
Special Analysis continued	50   59
Appendices	60   64
Acknowledgments	65

# Revenue

City revenues increased in fiscal year 2004-05 mainly due to property and other taxes. In 2005 Silicon Valley residents accounted for 15% of State revenues from personal income tax up from 13% in the previous year.

### WHY IS THIS IMPORTANT?

- Governance is defined as the process of decision-making and the process by which decisions are implemented. The ability of local government to govern effectively is influenced by many factors, including the availability and management of resources. To maintain service levels and respond to a changing environment, local government revenue must be reliable. Local revenues are affected by economic fluctuations and by state takings of locally generated revenue.
- Property tax revenue is the most stable source of city government revenue, fluctuating much less over time than do other sources of revenue, such as sales, hotel occupancy and other taxes. Since property tax revenue represents less than a quarter of all revenue, other revenue streams are critical in determining the overall volatility of local government funding.

#### How ARE WE DOING?

- Silicon Valley city revenues increased in 2004-2005 for the first time since the 2000-2001 time period. City revenues rose 9% from \$2.3 billion in 2003-2004 to \$2.5 billion in 2004-2005. In particular, property tax revenue experienced a major increase (37%), while sales tax revenue dropped 22%. In fact, property tax revenues are at their highest share—and sales taxes are close to their lowest share—of total city revenues since 1990.
- Despite an increase in property tax revenue, Silicon Valley cities still derive most of their revenue from the most volatile sources: sales tax, other taxes and other sources of revenue. Property tax grew from 16% to 20% of total city revenue while sales tax dropped from 18% to 13%. Revenue shares from "Other taxes" grew from 20% to 24%. "Other revenue" sources dropped slightly and include intergovernmental transfers, special benefit assessments, fines, as well as permits and investments.
- By virtue of its economic strength and comparatively high income levels, Silicon Valley typically makes a large contribution to state revenues. Through personal income taxes, the region, with about 7% of California's population, accounted for 14.7% of state revenues in 2005—up from 13.3% in 2004. Silicon Valley has been responsible for as much as one-quarter (24.1%) of state revenues at the peak of the economic boom in 2000.

# GOVERN



Change in revenuesfrom previous year:Property Taxes+37%Sales Taxes-22%

# 





Source: California Franchise Tax Board, Economic and Statistical Research Bureau Analysis: CEI

Special Analysis continued 50 | 59

Civic Engagement

About the 2008 Index

Map of Silicon Valley 02 | Table of Contents

Special Analysis 04 | 07

01

| 03

Appendices 60 | 64

Acknowledgments | 65

46 – 47

Revenue 48 – 49 >0 0 0

Needs, Opportunities and Challenges

continued from page 7

# **Replacement jobs: New opportunities**

- In addition to structural changes driving shifts in occupational demand, demographic and educational trends are leading toward a growing demand in a range of mid-wage occupations to fill positions being vacated by retirees. 2008 marks the first year in which baby boomers can retire and collect Social Security. The U.S. Department of Labor just projected that 25 million workers would retire in the next ten years and a larger number in the following decade. In California 3 million workers will retire by 2018, and the number of retirees in Silicon Valley will be close to 300,000.
- Nationally there will be two job openings from replacements for every job opening created from growth. In these midwage foundation occupations the ratio is much higher as today's workforce is relatively old. The latest California State projections show that for the San Francisco and San Jose metro areas, three job openings will come from replacements for every job opening created by growth and, again, the ratio is higher for mid-wage foundation occupations.
- Some of these mid-wage job opportunities require a four-year college degree but many do not; however, most of these jobs do require additional training beyond high school--training that must come from community colleges, often in partnership with local companies or public agencies and from new training programs yet to be developed. These jobs provide opportunities for workers to improve their pay and career opportunities. And the Valley needs these workers; however, challenges exist not only in training students and existing workers for these jobs but in making potential trainees aware of these opportunities.

### **Replacement Jobs in the Public Sector**

- Although not clearly revealed in the occupational data, local governments and public services such as utilities and water and waste departments are expressing concern about filling the replacement needs in a wide range of technical fields and public administrative positions.
- In 2001, roughly 45% of public employees were 45 years or older compared to 27% in the private sector. The 2003 Volcker Commission described the civil service "retirement tsunami" in which 60% of the federal workforce is expected to retire by the end of the decade. Although directed at federal government, the reported personnel crisis is also descriptive of the recruitment crisis besetting local governments.
- The communities of Silicon Valley are witnessing this trend as well. For example, one-third of City employees in San Jose will be eligible for retirement by the end of the decade, and the City of Palo Alto has reported that it stands to lose a wave of top managers retiring by summer of 2008. In San Mateo County, the average age of County employees is 44.7, and currently 18% of County workers are over the age of 50 and eligible for retirement.
- Dr. Frank Benest, out-going City Manager of Palo Alto, has identified four causes for the dearth of personnel qualified to fill the ranks of the waves of exiting public administrators: lack of succession planning, anti-government bias, value trends, and less time for traditional on-the-job mentoring.
- The inability to fill critical technical and administrative positions will impact the delivery of services in our communities. Addressing this quickly approaching crisis will necessitate discussions about technical training, public service recruitment and personnel development.

California State occupational projections indicate that the bulk of job openings in the coming decade will be mid-wage jobs. **Figure 3** represents the difference between projections for new jobs and for net replacements between 2004 and 2014 for Santa Clara County. At all earnings levels, job openings due to net replacements outpace openings from new positions. At the mid-wage level, projected replacement job openings are double new jobs. Replacement jobs at the lower wage level are projected to be almost triple new job openings. The bulk of such jobs are critical placebased occupations. Many of these jobs at the mid-wage level do not require university degrees.



\* Includes San Benito County

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

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

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

	Occupation	2006 Median Wage (\$2007)	Education & Training Requirements
HEALTH	Licensed Practical and Licensed Vocational Nurses	\$54,291	Post-Secondary Vocational Education
	Medical Assistants	\$35,359	Moderate-Term On-the-Job Training
	Dental Assistants	\$30,117	Moderate-Term On-the-Job Training
INFORMATION	Computer Support Specialists	\$61,358	Associate Degree
TECHNOLOGY	Computer, Automated Teller, & Office Machine Repairers	\$44,103	Post-Secondary Vocational Education
SUPPORT	Semiconductor Processors	\$42,512	Associate Degree
CONSTRUCTION	Electricians	\$68,426	Long-Term On-the-Job Training
	Plumbers, Pipefitters, and Steamfitters	\$59,045	Long-Term On-the-Job Training
	Drywall and Ceiling Tile Installers	\$54,036	Moderate-Term On-the-Job Training
	Construction Laborers	\$34,659	Moderate-Term On-the-Job Training

**Economic Turbulence and Workforce Uncertainty:** Special Analysis Mid-Wage Jobs in Silicon Valley

Needs, Opportunities and Challenges

# Ladders of Opportunity: Moving into Mid-Wage Occupations

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

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

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



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

3 For a detailed analysis of job churn by industry, firm-size, firm growth and gender, see Economic Turbulence Is a volatile Economy Good for America? (2006) from Brown, Haltiwanger and Lan

# Educational and training requirements of growing mid-wage occupations

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

#### Figure 5

#### **Educational Attainment by Mid-Wage Occupations**



Source: Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections

53

Needs, Opportunities and Challenges

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

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

### **English Skills**

- In order to even reach the "ramp" that would lead to a bridge to a mid-wage job, critical skills such as basic English are in high demand among lower wage workers in the region. In addition to the costs of English as a Second Language (ESL) courses, the nature of low-wage work is that people typically have more than one job. This severely limits their ability to take part in formal classes such as at community colleges with semester formats and limited availability on weekends. To help mitigate these mismatches of supply and need, the local nonprofit Building Skills Partnership works with employers and unions to provide janitors in the region with ESL and basic computer literacy training at the worksite and during working hours in order to reach out to the most workers with the greatest needs.
- People in mid-wage occupations can also change industries—as some industries are growing and pay more than others. Computer support specialists are a good example. People in this occupation can make very different wages if they work in business services (\$31,892) or internet service providers and web search portals (\$61,497). Even parts of the same industry, such as construction, can pay differential amounts. Drywall and ceiling tile installers, for example, in nonresidential building construction make much more (\$60,075) than the same occupation in residential building construction (\$45,957). Of course, in all these examples, while there are probably some skill differences that help explain varying wages, the skills differences are greater across occupations.

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

Each of the sectors of Health Services, IT Support Services, and Construction are characterized by strong growth in a variety of related mid-wage occupations in Silicon Valley. The discussion below begins with presenting some of these top growing mid-wage occupations and then exploring lower wage occupations that could have the potential for moving into these mid-wage occupations. Additionally, potential paths upward to high-wage occupations in growing demand are identified as well as potential lateral transitions for attaining higher earnings.

- Opportunities in Health Services are expanding due in part to the growing needs of an aging population. The changing patterns in service delivery from hospital-based care to out-patient and home care create different occupational needs. Additionally, new technology creates demand for new specialized skills.
- In Health Services, there is a natural progression from lower to mid-wage occupations and even higher. In the middle of **Figure 6**, are six of the top growing mid-wage occupations with varying levels of skill and earnings.
- The box below (Figure 6) contains a number of lower wage occupations with significant employment shares that could provide a starting point for people to move into the growing mid-wage occupations above. From the mid-wage to the high-wage level, the paths for progression become more specialized and typically more costly in terms of time and fees.
- Educational requirements for these growing mid-wage occupations in Health range from moderate on-the-job training to acquiring an Associate or Bachelor Degree. In addition to upgrading skills, earnings mobility can be achieved by transitioning from one industry to another. For example, in most Health fields, this can be achieved by working in a hospital. Biological Technicians can make wage gains by moving into R&D services.

#### High Wage Occupations Medical & Health **Registered Nurses** Pharmacists **Biomedical Engineers** Service Managers **Growing Mid Wage Occupations** Licensed Practical/ Medical & Clinical **Dental Hygienists** Vocational Nurses Laboratory Technicians Associate Degree Bachelor's Degree Postsecondary Vocational Award **Medical Assistants Biological Technicians Pharmacy Technicians** Associate Degree Moderate-term on-the-job training Moderate-term on-the-job training Occupations • Home Health Aides Pharmacy Aides • Personal and Home Care Aides Physical Therapist Aides'

#### Figure 6: Health Career Ladders

- Child Care Workers
- Hairdressers, Hairstylists & Cosmetologists

Lateral Transitions for Mid-Wage Occupations by Industry							
Medical Assistants Pharmacy Technicians		Biological Technicians		Lic. Practical/Vocational Nurses			
Offices of Other Health Practitioners	General Medical & Surgical Hospitals	Health & Personal Care Stores	General Medical & Surgical Hospitals	Pharmaceutical & Medicine Manufacturing	Scientific Research & Development Services	Home Health Care Services	General Medical & Surgical Hospitals
\$22,682	\$44,719	\$36,110	\$47,114	\$47,708	\$49,220	\$53,722	\$58,430

Needs, Opportunities and Challenges

> Technology pervades all aspects of economic activity today. The activities of placing an order at the coffee shop, paying a bill online, or accessing shared databases with coworkers on an internal network all require computer systems of varying scale that must be set up and maintained by skilled technicians.

- Growing mid-wage occupations in Information Technology Support include a range of skill requirements and earnings levels. As in Health Services, meaningful career progression can be pursued within the mid-wage level (Figure 7).
- Moving into these mid-wage occupations requires vocational training or an Associate or Bachelor Degree. Moving into high-wage occupations typically requires a four-year university degree.
- There is considerable opportunity for earnings mobility in IT Support through industry switches. In some instances, such a move can mean a move into the high-wage category. Computer Support Specialists in Business Support Services can double their earnings of roughly \$30,000 by moving into Internet Service Providers & Web Search Portals and quadruple their earnings by moving to Business Schools and Computer & Management Training.

Figure 7: Information Technology	Support Career Ladders High Wage Occupations	
Computer Systems Analysts	Network Systems and Data Communications Analysts	Computer and Information Systems Managers
	Growing Mid Wage Occupatio	ns
Computer, Automated Teller & Office Machine Repairers Postsecondary Vocational Award	Computer Support Specialists Associate Degree	Media & Communication Equipment Workers Long Term On-The-Job Training
	Low Wage Occupations	*
	• Tellers • Data Entry Keyers	

Lateral Transitions for Mid-Wage Occupations by Industry					
Computer Support Specialists			Computer, Automated Teller & Office Machine Repairers		
Business Support Services	Internet Service Providers & Web Search Portals	Business Schools and Computer & Management Training	Electronic & Precision Equipment Repair & Maintenance	Computer & Peripheral Equipment Manufacturing	
\$31,892	\$61,497	\$119,767	\$39,367	\$57,216	

- Although new residential construction is currently in decline other construction activities continue. California's recently passed infrastructure bonds will create new demand for skilled workers in building bridges and roads. In addition, commercial construction continues in the region, and new interest in green building is spurring the development of market niches in environmentally sound construction for remodeling and new building.
- Many of the top growing mid-wage occupations in the Valley are in the Construction Industry. These include a wide range of earnings and skills levels (**Figure 8**). The Construction industry offers the textbook example for accessible and viable career ladders. Movement up from lower to mid-wage occupations is primarily through on-the-job training, and extensive opportunity for earnings mobility exists within the middle wage range. First-Line Supervisors offers an example of how relevant work experience can lead to the high-wage category. Additionally, unlike most career ladders, many years of experience can lead to business ownership as an independent building contractor.
- There is also opportunity for Construction workers to improve their earnings by taking their skills to a different building sector. For example, Plumbers and Electricians improve earnings similarly by moving from Residential Construction to Building Equipment Contractors. Drywall Installers can increase earnings by 30% by moving from residential to nonresidential construction. Construction Laborers generally enjoy higher earnings in Highway, Street and Bridge Construction, and Inspectors can earn in the high-wage range working in local government.

#### Figure 8: Construction Career Ladders



First-Line Supervisors/Managers of Construction Trades & Extraction Workers

**Economic Turbulence and Workforce Uncertainty:** Special Analysis Mid-Wage Jobs in Silicon Valley

Needs, Opportunities and Challenges

# **Training Opportunities in the Region**

Silicon Valley is well-positioned to be a driver of new occupational demand through both the generation and the early adoption of new technology. New occupational opportunity is emerging from technological advances and new market demand for products and services. For example, the complexities of new technology in the areas of medical technology require the specialized expertise of multiple individuals for conducting tests, process monitoring, and interpreting results. Further, as waves of workers reach retirement, demand is quickly growing in more traditional technical fields. Faced with the dual challenges of dropping high school graduation rates and rising college tuition costs<sup>4</sup>, can our region meet the growing demands for occupational training?

- Looking at allied health fields as an example, during the 2006-2007 academic year 1,433 students were enrolled in Silicon Valley community colleges in the programs of Nursing, Medical Lab Technician, Radiology Technology, Respiratory Therapy, Pharmacology, and Biotechnology. (See Appendix for programs by college). Only in Medical Lab Technician and Biotechnology programs are there as many students enrolled as applied for the programs. In other critical training programs, the number of applicants far exceeds the number of seats available. For all nurse training (licensed vocational and associate programs), there were seven applicants for every single enrolled student. The ratios of five applicants for every seat in Radiology and four applicants for every seat in Respiratory Therapy suggest that considerable more demand for training exists than the region's colleges are able to provide.
- In addition to course availability, the acquisition of new skills requires time and money. Typically these allied health programs take two years to complete and cost a total of \$2,400 to \$4,400.



Figure 9

nally college tuition has risen faster than inflation for the last 26 years (Kim. et al. 2007. 23)

# **Preparing People for Opportunity in Turbulent Times**

- The pace of change is fast. Firms *and* people need the flexibility and support to quickly adapt to the new speed of changing market forces. Intrinsic to these new market forces are uncertainty and risk, job volatility, and demand for new skills.
- When social cohesion crumbles, there are real ramifications in an innovation economy. Chairman of the Federal Reserve, Ben Bernanke, explains that while the ability of our labor and capital markets to accommodate and adapt to economic change has made possible our strong productivity growth, these dynamics have also produced painful results for people whose skills become obsolete in the process (2007). Further, he cautions: "If we did not place some limits on the downside risks to individuals affected by economic change, the public at large might become less willing to accept the dynamism that is so essential to economic progress" (2007). In addition, Martin Wolf, Economist at the *Financial Times* argues, rising inequality causes declining equality of opportunity, and "it also makes losing a job costlier, more objectionable and so more resisted" (2007).
- Joint Venture's "Next Silicon Valley" report describes trust as core to an innovation economy in which entrepreneurs, investors, and researchers collaborate in a highly competitive environment. "Trust has become important because it fosters the cooperation and risk sharing that promotes innovation and flexible responses to change" (Joint Venture, 2001, 30). Silicon Valley will be a resilient region when the region can support its people, companies, and communities as they mutually adapt to increased economic volatility (Joint Venture, 2001).
- "Unless social innovation accompanies technology innovation, the relentless flow of new innovations can have real and growing downsides downsides that threaten the special habitat that births them." (Joint Venture, 2001).

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

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

# APPENDIX A

# **Front Page Statistics**

#### Area

Data are for Santa Clara and San Mateo Counties, Fremont, Newark, Union City, and Scotts Valley. Land Area data (except for Scotts Valley) is from the U.S. Census Bureau: State and County QuickFacts. Data is derived from Population Estimates, 2000 Census of Population and Housing, 1990 Census of Population and Housing, Small Area Income and Poverty Estimates, County Business Patterns, 1997 Economic Census, Minority- and Women-Owned Business, Building Permits, Consolidated Federal Funds Report, Census of Governments. Scotts Valley data is from the Scotts Valley Chamber of Commerce.

#### Population

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

#### Jobs

Jobs data for the front page statistic is based on Quarter 2 2007 employment estimates. Silicon Valley employment data are provided by the California Employment Development Department and are from Joint Venture: Silicon Valley Network's unique data set. The data set counts jobs in the region and uses data from the Quarterly Census of Vages and Employment program that produces a comprehensive tabulation of employment and wage information for workers covered by State unemployment insurance (UI) laws and Federal workers covered by the Unemployment Compensation for Federal Employees (UCFE) program. Employment data exclude members of the amend forces, the self-employed, proprietors, domestic workers, unpaid family workers, and railroad workers covered by the railroad unemployment insurace system. Covered workers may like outside of the Silicon Valley region. Multiple jobholders (i.e., individuals who hold more than one job) may be counted more than one. Data for Quarter 2 2007 are preliminary-revised. Data is for Santa Clara and San Mateo Counties, Scotts Valley, Fremont, Newark, and Union City.

#### Average Wage

Figures were derived from the EDD/Joint Venture: Silicon Valley Network data set and are reported for Fiscal Year 2007 (Q3 & Q4 2006, Q1, &Q2 2007). Wages were adjusted for inflation and are reported in 2007 dollars using the U.S. city average Consumer Price Index (CPI) of all urban consumers, published by the Bureau of Labor Statistics. Data for Quarter 2 2007 are preliminary-revised. Data is for Santa Clara and San Mateo Counties, Scotts Valley, Fremont, Newark, and Union City. Appendix B provides NAICS-based definitions for each of Silicon Valley's industry clusters.

#### Educational Attainment, Age, Ethnic Composition

Data for educational attainment, age, ethnicity/race, (front page statistics) are for Santa Clara and San Mateo Counties and are derived from the United States Census Bureau, 2006 American Community Survey.

#### Foreign Born

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

#### Foreign Immigration and Domestic Migration

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

# People

#### Population Change & Net Migration Flows

Statistics are from the E-6: County Population Estimates and Components of Change by County — July 1, 2000–2007 report by the California Department of Finance and are for Santa Clara and San Mateo Counties. Estimates for 2007 are provisional. Net migration includes all legal and unauthorized foreign immigrants, residents who left the state to live abroad, and the balance of hundreds of thousands of people moving to and from California from within the United States.

#### Population shares that speak language other than English at home

Data are from the United States Census Bureau, 2002 and 2006 American Community Survey. The data are for Santa Clara and San Mateo counties.

#### Educational Attainment

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

#### Science and Engineering Degrees Conferred

Data are from the National Center for Education Statistics. Regional data includes the following post secondary institutions: Menlo College, Cogswell Polytechnical College, University of California at Berkeley, Davis, San Francisco, and Santa Cruz, Stanford University, San Francisco State University, Santa Clara University, San Jose State University and University of San Francisco. The academic disciplines include: computer and information sciences, engineering, engineering-related technologies, biological sciences/life sciences, mathematics, physical sciences and science technologies. Data were analyzed based on citizenship and level of degree (bachelors, masters or doctorate. U.S. totals came from the National Science Board Science and Engineering Indicators 2006.

# **Economy**

#### Innovation

#### Value Added

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

#### Patents

Patent data is provided by the U.S. Patent and Trademark Office and consists of utility patents granted by inventor. Population figures are from Economy.com. Geographic designation is given by the location of the first inventor named on the patent application. Silicon Valley patents include only those patents filed by residents of Silicon Valley cities. Data are based on Joint Venture's ZIP-code-defined region of Silicon Valley.

#### Silicon Valley Firms with Affiliates Abroad

Information on foreign firms located in Silicon Valley came from Uniworld Business Publications. Employment numbers for these firms were provided by Halpern Info Services. Data are based on Joint Venture's ZIP-code-defined region of Silicon Valley.

#### Venture Capital

Data are provided by PricewaterhouseCoopers/Thomson Venture Economics/National Venture Capital Association MoneyTree(tm) Survey. Venture capital data for cleantech investments are provided by the Cleantech Network<sup>™</sup>, LLC. 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 2007 venture capital funding level is an estimate based on the first three quarters of data and historical growth patterns in the fourth quarter. Values are inflation-adjusted and reported in 2007 dollars, using the CPI for the U.S. City Average from the Bureau of Labor Statistics.

#### Cleantech Venture Capital

Data provided by Cleantech Group<sup>TM</sup>, LLC. For this analysis, venture capital is defined as disclosed clean tech investment deal totals. Data are based on Joint Venture's ZIP-code-defined region of Silicon Valley. The Cleantech Group describes cleantech as new technology and processes, spanning a ranges of industries that enhance efficiency, reduce or eliminate negative ecological impact, and improve the productive and responsible use of natural resources. See box for cleantech industry segments.

#### Broadband Adoption in California

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

#### Global Broadband Subscribers

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

#### Employment

#### lobs

silicon Valley employment data are provided by the California Employment Development Department and are from Joint Venture: Silicon Valley Network's unique data set. The data set counts jobs in the region and uses data from the Quarterly Census of Wages and Employment program that produces a comprehensive tabulation of employment and wage information for workers covered by State unemployment insurance (UI) laws and Federal workers covered by the Unemployment Compensation for Federal Employees (UCFE) program. Employment data exclude members of the armed forces, the self-employed, proprietors, domestic workers, unpaid family workers, and railroad workers covered by the railroad unemployment insurance system. Covered workers may live outside of the Silicon Valley region. Multiple jobholders (i.e., individuals who hold more than one job) may be counted more than once. Data for Quarter 2 2007 are preliminary-revised. Data is for Santa Clara and San Mateo Counties, Scotts Valley, Fremont, Newark, and Union City.

#### Employment by Cluster and Industry

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

#### Green Establishments and Employment

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

#### Workforce and Unemployment

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

#### Income

#### Real per capita income

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

#### Distribution of Income and Median Household Income

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

#### Relative Cost of Living

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

# **Society**

#### High School Graduation Rate

Data for the most current year are preliminary and are provided by the individual school districts in Santa Clara County, Cabrillo, Fremont, New Haven, Newark, Sequoia, and Scotts Valley via their CSIS reporting. CSIS is a program that was created to fulfill California's requirement per the Federal legislation, No Child Left Behind Act of 2001 (NCLB), to implement a statewide accountability program that measures the progress of its students and schools over time through the collection and analysis of disaggregated data. In response, California Legislature enacted SB1453, which establishes two key components necessary for a long-term assessment and accountability system

- Assignment of a unique, student identifier to each K-12 pupil enrolled in a public school program or in a charter school that will remain with the student throughout his or her academic 'career' in the California public school system; and
- Establishment of a longitudinal database of disaggregated student information that will enable state policy-makers to determine the success of its program of educational reform.

Historical data are final and are from the California Department of Education. The methodology used calculates an approximate probability that one will graduate on time by looking at the number of 12th grade graduates and number of 12th, 11th, 10th and 9th grade dropouts over a four year period.

#### Dropout rates

Data for the most current year are preliminary and are provided by the individual school districts in Santa Clara County, Cabrillo, Fremont, New Haven, Newark, Sequoia, and Scotts Valley via their CSIS reporting. CSIS is a program that was created to fulfill California's requirement per the Federal legislation, No Child Left Behind Act of 2001 (NCLB), to implement a statewide accountability program that measures the progress of its students and schools over time through the collection and analysis of disaggregated data. In response, California Legislature enacted SB1453, which establishes two key components necessary for a long-term assessment and accountability system

- Assignment of a unique, student identifier to each K-12 pupil enrolled in a public school program or in a charter school that will remain with the student throughout his or her academic 'career' in the California public school system; and
  - Establishment of a longitudinal database of disaggregated student information that will enable state policy-makers to determine the success of its program of educational reform.

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

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

#### Kindergarten Readiness & Childcare Arrangements

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

Teachers and parents of kindergarten children reported on the types of child care arrangements children experienced the year prior to entering kindergarten. Percentages are based on the weighted sample size of 1174-1149 for Santa Clara and San Mateo counties. Percentages sum to more than 100% because children were cared for in more than one setting 2006 percentages are based on 602-615 people who completed a Parent Information Form. The star flags a significant increase in preschool attendance according to a chi-square test,  $p \le .05$ . In 2004, only preschool experience data were gathered.

Teacher expectation data is based on the level of proficiency teachers think children must have to successfully transition into kindergarten and uses the same proficiency scale used to evaluate children's proficiency levels. In 204, teacher expectations data was based on 32 teachers in 2004, 35 teachers in 2005, and 38 teachers in 2006. While child data are representative of each county, teacher-level data are not.

#### Third Grade Reading

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

#### Arts & Culture

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

# Cleantech **Industry Segments**

#### **Energy Generation**

Wind Solar Hydro/Marine Biofuels Geothermal Other

#### **Energy Storage**

Fuel Cells Advanced Batteries Hybrid Systems

**Energy Infrastructure** Managen

Transmission **Energy Efficiency** Lighting Buildings Glass

#### Transportation

Vehicles Logistics Structures Fuels

Other

Water & Wastewater

Water Treatment Water Conservation Wastewater Treatment

Air & Environment Cleanup/Safety **Emissions** Control Monitoring/Compliance Trading & Offsets

Materials Nano

Bio Chemical Other

Manufacturing/Industrial Advanced Packagi

Monitoring & Control Smart Production Agriculture Natural Pesticides

Land Management Aquaculture

#### **Recycling & Waste** Recycling

Waste Treatment Source: Cleantech Group™, LLC

# APPENDIX A

#### Child Immunizations

Data on child immunizations are from the Center for Disease Control, National Center for Health Statistics' National Immunization Survey (Jan. 2006-Dec. 2006). Children in the Q1/2006-Q4/2006 National Immunization Survey were born between January 2003 and June 2005. Silicon Valley data includes Santa Clara County.

#### Health Insurance Coverage and Source

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

#### Dental Insurance Coverage

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

#### Asthma

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

#### Obesity

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

#### Share of Youth in Health Fitness Zone

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

#### Child Abuse

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

#### Adult & Juvenile Violent Offenses/Drug & Alcohol Rehabilitation Services

Crime data are from the FBI's Uniform Crime Reports, as reported by the California Department of Justice in their annual "Criminal Justice Profiles". Felony offenses include violent, property and drug offenses. Drug rehabilitation data include the number of clients utilizing residential and outpatient drug and alcohol rehabilitation services provided by Santa Clara and San Mateo Counties. Data are an unduplicated count of residents served.

### Place

#### Environment

#### Protected Open Space

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

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

#### Water Consumption

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

#### Electricity Consumption

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

#### Renewable Energy

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

#### Vehicle Miles of Travel & Gas Prices

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

#### Rides Per Capita & Change in Revenue Hours

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

#### Means of Commute

Data on the means of commute to work are from the United States Census Bureau, American Community Survey. Data are for workers 16 years old and over residing in Santa Clara and San Mateo Counties commuting to the geographic location at which workers carried out their occupational activities during the reference week whether or not the location was inside or outside the county limits. The data on employment status and journey to work relate to the reference week; that is, the calendar week preceding the date on which the respondents completed their questionnaires or were interviewed. This week is not the same for all respondents since the interviewing was conducted over a 12-month period. The occurrence of holidays during the relative reference week could affect the data on actual hours worked during the reference week but probably had no effect on overall measurement of employment status. People who used different means of transportation on different days of the week were asked to specify the one they used most often, that is, the greatest number of days. People who used more than one means of transportation to get to work each day were asked to report the one used for the longest distance during the work trip. The category, "Can truck, or van," includes workers using a car (including company cars but excluding taxicabs), a truck of one- ton capacity or less, or a van. The category, "Dubic transportation," includes workers who used a mode of travel that is not identified separately within the data distribution.

#### Alternative Fuel Vehicles

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

#### Vehicles Registered by Fuel Efficiency

Data are from the California Air Resources Board. Silicon Valley is defined as Santa Clara and San Mateo Counties.

#### Fuel Consumption

Fuel consumption data are from the Caltrans, 2006 "California Motor Vehicle Stock, Travel, and Fuel Forecast" and include estimates for diesel and gasoline. Silicon Valley data is for Santa Clara and San Mateo Counties. Population Estimates are from the California Department of Finance, Table 1: E-4 Population Estimates for Counties and State, 2001-2007 with 2000 DRU Benchmark.

#### Air Quality

Ozone data come from the California Air Resources Board, 2007 Air Quality Data DVD. Data is for Santa Clara and San Mateo Counties and measures the number of days exceeding the State 8-Hour Ozone Standard.

#### Land Use Land Use Density

Joint Venture: Silicon Valley Network conducted a land-use survey of all cities within Silicon Valley. Collaborative Economics completed survey compilation and analysis. Participating cities include: Atherton, Belmont, Cupertino, Foster City, Fremont, Gilroy, Hillsborough, Los Altos Hills, Los Gatos, Monte Sereno, Morgan Hill, Mountain View, Newark, Palo Alto, Redwood City, San Carlos, San Jose, San Mateo, Santa Clara, Saratoga, Sunnyvale, and Union City. Santa Clara and San Mateo Counties are also included. Most recent data are for fiscal year 2007 (July '06-June '07). The average unites per acre of newly approved residential development are reported directly for each of the cities and counties participating in the survey.

#### Housing and Development Near Transit

Data are from Joint Venture: Silicon Valley Network Survey of Cities. The number of new housing units and the square feet of commercial development within one-quarter mile of transit are reported directly for each of the cities and counties participating in the survey. Places within one-quarter mile of transit are considered "walkable" (i.e. within a 5- to 10-minute walk, for the average person).

#### Building Affordable Housing

Data are from the Joint Venture: Silicon Valley Network of Survey Cities. Affordable units are those units that are affordable for a four-person family earning up to 80% 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.

#### Housing

#### Rental Affordability

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

#### Home Affordability

Data are from the California Association of REALTORS' (CAR) Housing Affordability Index. CAR stopped producing the Housing Affordability Index for all home buyers since the end of 2005 and now produces a Housing Affordability Index for first-time buyers that has been updated historically to 2003. The data for Silicon Valley includes Santa Clara and San Mateo County and is based on the median price of existing single family homes sold from CAR's monthly existing home sales survey, the national average effective mortgage interest rate as reported by the Federal Housing Finance Board, and the median household income as reported by Claritas/NPDC. Quarterly Sales Volume for Existing Single Family Detached Home Sales data were provided by DataQuick Information Systems.

#### Residential Foreclosure Activity

Silicon Valley foreclosure data is for all home types and comes from DataQuick Information Systems. Data are based on Joint Venture's ZIP-code-defined region of Silicon Valley.

#### Down-payment as Share of Total Price of Home

Median home prices and average down-payment shares are from DataQuick Information Systems. Data are based on Joint Venture's ZIP-code-defined region of Silicon Valley.

#### Commercial Space

Data are from Colliers International and cover Santa Clara County. Commercial space includes office, R&D, industrial and warehouse space. The vacancy rate is the amount of unoccupied space and is calculated by dividing the sum of the direct vacant and sublease vacant space by the building base. The vacancy rate does not include occupied space that is presently being offered on the market for sale or lease. Net absorption is the change in occupied space that given time period. Average asking rents have been adjusted into 2007 dollars using the annual average Consumer Price Index (CPI) of all urban consumers in the San Francisco–Oakland–San Jose region, published by the Bureau of Labor Statistics.

# Governance

#### Voter Participation & Party Affiliation

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

#### Nonprofit sector and fields of charitable giving

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

#### City Revenue

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

#### Regional - State interface: Silicon Valley's contribution to CA State revenues

Data come from the Table B-7, "Personal Income Tax, Adjusted Gross Income by County," provided by the California Franchise Tax Board, Economic and Statistical Research Bureau. Statistics were adjusted for inflation and are reported in 2007 dollars using the U.S. city average Consumer Price Index (CPI) of all urban consumers, published by the Bureau of Labor Statistics.

# **Special Analysis**

#### Community College Training Programs

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

#### Occupational Distribution by Low, Mid, and High Income Levels Growing and Declining Mid-Wage Occupations

#### Career Ladders

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

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

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

#### Replacement Jobs

Replacement job projections are from the Occupational Employment Statistics, provided by the California Employment Development Department- Labor Market Information Division. Data is for Santa Clara and San Benito Counties. Wage Distribution based on inflation-adjusted 50th percentile hourly earnings from the first quarter of 2006 and are reported in 2007 dollars using the U.S. city average Consumer Price Index (CPI) of all urban consumers, published by the Bureau of Labor Statistics. Wage data do not include self-employed nor unpaid family workers. Net Replacements openings are an estimate of the number of job openings expected because people have permanently left an occupation. It estimates the net movement of 1) experienced workers who leave an occupation and start working in another occupation, stop working altogether, or leave the geographic area minus 2) experienced workers who move into such an opening. It does not represent the total number of jobs to be filled due to the need to replace workers.

#### Educational Attainment

Figures are from the Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections.

# REFERENCES

Auerhahn, Louise, Bob Brownstein, Brian Darrow, Phaedra Ellis-Lamkins. 2007. "Life in the Valley Economy. Silicon Valley Progress Report." Working Partnerships USA (March 2007).

Austin, Jenny & Nancy Tucker. 2006. "Silicon Valley Roots: Foundational Occupations with Growth Potential." NOVA Workforce Board report.

Bernake, Ben. 2007. "The Level and Distribution of Economic Well-Being," Remarks before the Greater Omaha Chamber of Commerce, Omaha, Nebraska. U.S. Federal Reserve Board. February 6, 2007.

Blinder, Alan. 2007. "Will the middle class hold? Two problems of American labor." Testimony before the Joint Economic Committee. January 31, 2007.

Brown, Claire, John Haltiwanger, Julia Lane. 2007. Economic Turbulence. Is a volatile economy good for America? Chicago: The University of Chicago Press. Dardia, Michael, Elisa Barbour, Akhtar Khan, Colleen Moore. 2002. "Moving Up? Earnings Mobility in California," in Growth and Employment, California Policy Review. Burlingame, CA: SPHERE Institute. (April 2002).

Henton, Doug, Kim Walesh, Liz Brown. 2001. "Next Silicon Valley: Riding the Waves of Innovation." White Paper prepared with the Next Silicon Valley Leadership Group for Joint Venture: Silicon Valley Network. December 2001.

Kim, Ann, Adam Solomon, Bernard Schwartz, Jim Kessler, Stephen Rose. 2007. "The New Rules Economy: A Policy Framework for the 21st Century." A Third Way Report. The Third Way Middle Class Project. National Center for O\*NET Development. 2006. "New and Emerging (N&E) Occupations Methodology Development Report." Employment and Training Administration Office of Workforce Investment, Skill Assessment Team. U. S. Department of Labor (March 2006).

Orszag. Peter: 2007. "Volatility Report." Congressional Budget Office Testimony before Committee on Ways and Means, U.S. House of Representatives, January 31, 2007.

Pikulinski, Jerome. 2004. "New and Emerging Occupations." Research Summary. Monthly Labor Review. Bureau of Labor Statistics (December 2004).

Strategic Growth Plan. 2006. "Governor Schwarzenegger Stresses Importance of Vocational Education." (March 21, 2006). http://www.strategicgrowthplan.com/index.php?/full/governor-schwarzenegger-stresses-importance-of-vocationaleducation/

Reed, Deborah. 2004. "Recent Trends in Income and Poverty," in California Counts Population Trends and Profiles. San Francisco: Public Policy Institute of California. (February 2004). Rose, Stephen. 2007. "The Truth about Middle Class Jobs." Policy Report. The Progressive Policy Institute (October 2007).

Rubin, Robert and Jacob Weisberg. 2003. In an Uncertain World. Tough Choices from Wall Street to Washington. New York: Random House.

Walesh, Kim, Doug Henton, Chi Nguyen, Liz Brown, John Melville. 2001 "Unfinished Business: Women in the Silicon Valley Economy,"Women of Silicon Valley, a project of Community Foundation Silicon Valley and Collaborative Economics (April 2001).

Wolf, Martin. 2007. "Why America will need some elements of a welfare state," Financial Times. Feb. 13, 2007.

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

Community College	Nursing	Medical Lab Technician	Respiratory Therapy	Pharmacology	Radiology Technology	Biotechnology
Cabrillo College	0	0			0	
Canada College	0				0	
Chabot College	0					
DeAnza College	0	0				
Evergreen Valley College	0					
Foothill College			0	0	0	0
Gavilan Collage	0					
Ohlone College	o		o			
San Jose City College						
San Mateo College	0					
San Jose City College						
Skyline College			0			

### 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
- Internet Service Providers, Websearch Portals and Data Processing Services 518
- 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

### ACKNOWLEDGMENTS

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

I st ACT 1790 Analytics Altamont Commuter Express Applied Survey Research Arts Council Silicon Valley Bay Area Water Supply and Conservation Agency Building Skills Partnership California Air Resources Board California Association of Realtors California Department of Education California Department of Finance California Department of Health Services California Department of Justice California Department of Motor Vehicles California Department of Transportation California Employment Development Department California Energy Commission California Franchise Tax Board California Secretary of State California State Controller Center for Social Services Research, School of Social Welfare, University of California, Berkeley Center for the Continuing Study of the California Economy City Planning and Housing Departments of Silicon Valley Cleantech Group<sup>™</sup>, LLC **Colliers** International DataQuick Information Systems Federal Bureau of Investigation GreenInfo Network Kids in Common Metropolitan Transportation Commission Moody's Economy.com National Center for Education Statistics

National Center for Charitable Statistics National Center for Health Statistics Next 10 Nielsen//NetRatings NOVA Workforce Investment Board Organisation for Economic Co-operation and Development PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ **Report/Thomson Financial** Public Policy Institute of California RealFacts SamTrans San Mateo County San Mateo County Human Services Agency, Planning & Evaluation San Mateo County Office of Education Santa Clara County Santa Clara County Department of Alcohol & Drug Services, Alcohol & Drug Services Research Institute Santa Clara County Office of Education Santa Clara County Partnership for School Readiness Silicon Valley City Managers Silicon Valley Community Colleges Silicon Valley Community Foundation Silicon Valley School Districts The David and Lucile Packard Foundation The William and Flora Hewlett Foundation U.S. Bureau of Labor Statistics U.S. Census Bureau U.S. Department of Energy U.S. Patent and Trademark Office UCLA Center for Health Policy Research United Way Silicon Valley Uniworld Business Publications Valley Transportation Authority Walls & Associates

# JOINT VENTURE: SILICON VALLEY NETWORK

Established in 1993, Joint Venture: Silicon Valley Network provides analysis and action on issues affecting our region's economy and quality of life. The organization brings together established and emerging leaders—from business, government, academia, labor and the broader community—to spotlight issues, launch projects, and work toward innovative solutions.

# SILICON VALLEY COMMUNITY FOUNDATION

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

#### 2008 INDEX SPONSORS

- Accenture Accretive Solutions Adobe Systems AeA AT&T Bank of America Bay Area Council Foundation Bay Area Council Foundation Bay Area SMACNA Berliner Cohen Bingham McCutchen Cadence Design Systems Cisco Systems Cisco Systems City of Fremont City of Fremont City of Menlo Park City of Menlo Park City of Morgan Hill City of Palo Alto City of Redwood City City of San Jose
- City of Santa Clara City of Santa Cruz Redevelopment Agency Cogswell Polytechnical College Colliers International County of San Mateo County of Santa Clara Deloitte & Touche Ernst & Young College District Foundation Gooey Godward Kronish LLP Half Moon Bay Brewing Company Hoge Fenton **JETRO** Johnson Controls Kaiser Permanente KPMG
- at Stanford McKinsey & Company O'Connor Hospital **Oakland Athletics** Pacific Gas & Electric Company Pipe Trades Training Center of Santa Clara & San Benito Counties Robert Half International SamTrans/Caltrain San Francisco 49ers San Jose Convention & Visitor's Bureau San Jose Sharks San Jose State University SanDisk Building & Construction Trades Council
- Santa Clara Valley Water District Silicon Valley Power SolutionSet Stanford University SunPower Corporation SVB Financial Group Synopsys The Health Trust Therma University of California at Santa Cruz Valley Medical Center Foundation Varian Medical Systems Volterra WilmerHale Wilson Sonsini Goodrich & Rosati LLP Zanker Road Resource Management, Ltd.

#### MULTIYEAR INVESTORS

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

#### Iherma

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

#### **PUBLIC SECTOR**

- City of East Palo Alto City of Campbell City of Fremont City of Gilroy City of Los Altos City of Menlo Park City of Milpitas
- City of Morgan Hill City of Mountain View City of Newark City of Palo Alto City of Redwood City City of San Carlos City of San Jose City of San Mateo City of Santa Clara City of Santa Cruz City of Sunnyvale City of Sunnyvale City of Union City County of San Mateo County of Santa Clara Town of Los Altos Hills Town of Los Gatos



#### JOINT VENTURE: SILICON VALLEY NETWORK

84 West Santa Clara Street, Suite 440 San Jose, California 95113-1820 t: 408 271-7213 f: 408 271-7214 email: info@jointventure.org

# SILICON community VALLEY foundation

#### SILICON VALLEY COMMUNITY FOUNDATION

2440 West El Camino Real, Suite 300 Mountain View, California 94040-1498 t: 650 450-5400 f: 650 450-5401 email: info@siliconvalleycf.org www.siliconvalleycf.org

Copyright ©2008 Joint Venture: Silicon Valley Network, Inc. All rights reserved Printed in the U.S.A. on recycled paper

design: 3x3 | san francisco