

### WHAT WORKS IN CLOSING THE TECHNOLOGY GAP?

# LESSONS FROM A FOUR YEAR DEMONSTRATION IN 11 LOW INCOME CALIFORNIA COMMUNITIES

By Linda Fowells and Wendy Lazarus



With contributions from Drew Furedi and George Gundrey
And editorial assistance from Jamie Brown and María Ruiz

Our thanks, appreciation and respect go to everyone involved in the

Computers In Our Future Initiative
especially those who envisioned all that these community technology centers could be,
the staff who made it happen,
and the community members who used the center and taught us all what works.

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The authors wrote this report on behalf of the CIOF Program Coordination Team and have worked with CIOF since its earliest days.

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# JUAN LARIOS

As a student in continuation high school, Juan Larios of Fresno, California, was not really sure if he would succeed in life. Then he discovered a community technology center in his neighborhood and moved rapidly from participant to volunteer, and then from employee to manager. Ultimately his experience enabled him to become Director of Information Technology for an agribusiness company, where he is the youngest administrator to oversee a division with sites throughout the world.



"The most sensible plans...would expand a pilot network of 11 'community technology centers'... The centers have been highly successful at helping low-income teenagers acquire marketable tech skills."

Los Angeles Times August 6, 2000

#### **EXECUTIVE SUMMARY**

#### **O**VERVIEW

A four-year \$7.5 million demonstration is closing the technology gap in 11 low-income California communities and providing a solid, extensive experience base from which community leaders, funders, elected officials, and corporate leaders can draw as they take steps to ensure that all Americans reap the opportunities offered by the digital age.

The demonstration, called Computers In Our Future (CIOF), was conceived by The California Wellness Foundation at a time when computers were changing the world, but their benefits were not yet reaching low-income communities. Little was known about how to effectively provide meaningful technology access in underserved communities, or how to tie it into community and economic development activities in the neighborhood. Computers In Our Future was a unique approach in trying to answer these questions and demonstrate how increased access to technology, training, and jobs could improve education and employment opportunities for young people. Through CIOF's experience, a great deal has been learned, and a model has been built that works in diverse communities and can be taken to scale.

Since early 1998 when the 11 centers opened their doors, more than 22,500 low-income Californians, over half of them under 24 years old, have benefited from the initiative. In addition to the individuals served, two features make CIOF more comprehensive and experimental than many other community technology efforts: first, the expectation that CIOF centers should serve as a technology resource in the community, helping businesses, community organizations, and local institutions use technology to strengthen their endeavors and the community as a whole; and second, the expectation that CIOF centers would help develop leaders from the community to speak out in local and state policy debates. These two features represent two of the most unusual and valuable aspects of the effort.

The communities served by CIOF are geographically, culturally, and ethnically diverse. The centers are located in inner-city Los Angeles, San Francisco, and Oakland; less densely populated urban areas such as Riverside, San Diego, and Santa Barbara; agricultural regions like Fresno and Imperial County; and rural parts of California like Plumas and Siskiyou Counties. The types of organizations and partnerships that operate the centers are as diverse as their

geography. They include youth centers, a community economic development organization, a county health department, a housing agency, and several educational institutions, all using technology not as their end game, but as a means to achieving their mission and serving their communities.

#### RESULTS

While CIOF is still relatively young and the formal evaluation is still in progress, early information indicates clearly that the CIOF centers are succeeding extremely well in their goal of providing meaningful technology access to underserved communities. Further, a great deal of anecdotal evidence shows that low income residents who have participated in CIOF are translating their newfound technology skills into better performance at school, stronger preparation for employment, and greater access to information that enables them to lead self-sufficient and productive lives.

The CIOF centers also play an integral role in strengthing their communities. Some of the most powerful reverberations from this initiative have been felt in the policy process and in the overall economic development and strengthened technology capability of the CIOF communities.

#### HIGHLIGHTS:

# CIOF Is Reaching Those Who Were Previously Unreached

- ❖ Roughly 60% of the centers' adult users have a high school education or less.
- Roughly 80% are people of color.
- ❖ Roughly 60% had not used a computer before or considered themselves beginners.

# CIOF Is Enhancing Knowledge and Opportunities

- Over 1/3 of CIOF participants are involved in formal classes.
- ❖ 80% said they could perform computer tasks without help by the end of their course.
- ♦ 13% seek employment assistance or employmentspecific training.
- Over 2000 youth and adults have gained employment related experience.

#### **EXECUTIVE SUMMARY**

#### CIOF Is Providing a Needed Asset

- ❖ Participants visit the centers an average of 11 times and stay nearly 2 hours per visit.
- Many use the center for homework, to look for a job, or to obtain information important to their lives—much like other Californians who have access to technology.

#### **CIOF Is Strengthening Communities**

- Dozens of local businesses, churches, and nonprofit organizations have developed their technological capacity as a result of help from CIOF centers.
- Center directors and staff are respected voices at the technology policy-making tables in their communities, and they are representing their communities' needs effectively in California's state capitol, Sacramento.

#### WHAT WORKS

This report analyzes the key components of the CIOF model. While it was important to require core program elements at every site, it was equally important for centers to tailor their activities and "look and feel" to the unique cultural and economic needs of each community. It was also crucial to their success that centers be deeply involved in their local communities, able to refer families to other organizations for real world needs, to offer joint programs or services with other nonprofits, and to build bridges to employment agencies and employers. Private sector partnerships with technology companies also helped leverage resources in valuable ways.

Perhaps the core lesson from CIOF is that there is no cookie cutter or franchise formula. It was essential that each center articulate what it wanted to accomplish in its community and then harness the technology to achieve that mission. Developing curriculum that supported measurable objectives, figuring out the best way to link participants to jobs, and finding and retaining the right staff provided significant challenges but were areas where meaningful strides were made.

CIOF also demonstrated that with adequate resources and technical assistance, centers could accomplish more than provide valuable direct services to participants. They could serve as a technology resource to public and private entities in the community, meeting a pressing need that otherwise would not have been met. Whether

helping other organizations wire their community rooms, opening a satellite center in a high-need neighborhood, or hosting business web sites maintained by center trainees, CIOF proved it was possible to spread benefits beyond the individual center to the community. It also demonstrated that with proper coaching and support, centers and their staff could become highly valued new voices in the technology policy decision making process.

#### IMPLICATIONS FOR ACTION

Over the next decade the roadmap will be charted for who receive technology access and how they use it—both in California and nationally. The CIOF experience suggests that effective community technology programs can indeed be replicated and even taken to scale, so long as their features are locally driven. The costs are modest—just a few hundred dollars for each participant served. To put this figure in some context, the U.S. spends roughly \$4,360 annually to provide health care to an adult and \$8,180 annually to educate a child.

CIOF's wealth of first hand experience suggests how to extend the benefits that 22,500 California residents and 11 low-income communities have received to many more communities that, today, are disadvantaged by the technology gap. Community leaders, philanthropists, the corporate sector, and public policy makers all have vital roles to play. More detailed implications for each of these sectors are laid out in the report.

# Anna Bautista

Anna Bautista,\* a young single mother in El Centro, felt it was time for a change for her and her young son. She enrolled in a CalWorks job readiness class at the CIOF center at Desert Oasis High School. After learning technology skills and developing her resume, Anna soon found employment using the CalJobs site on the Internet. Realizing she also needed to improve her living situation, Anna once again surfed the net and found an apartment close to school and work. As she left the CIOF program, Anna said she was both scared and excited about her new job and new life, and determined to make it with what she now had.



"The youth center has helped me in many ways. It has helped me by taking me out of the streets, by teaching me many new skills and by letting me know that I always had someone I could count on."

#### **Christopher Sherpas**

youth participant from Bresee Foundation's Cyberhood

<sup>\*</sup>Anna's real name was changed to protect her confidentiality.

# Why Technology Access and Usage Matter

- People who use computers on the job earn 43% more than other workers.<sup>2</sup>
- An estimated 60% of all jobs require skills with technology.<sup>3</sup>
- Employed Californians who use a personal computer report significantly better health status and significantly lower depression levels than employed Californians who do not use a personal computer.<sup>4</sup>
- Among recent college graduates, 82% searched for careers and employment information online. Of those, 66% seeking employment e-mailed their resumes to employers, and 55% posted their resumes at online job service sites.<sup>5</sup>

Technology is a tool that is increasingly essential for participation in the civic and economic life of our society. Using technology, people in underserved communities are connected to opportunities which require technology fluency, to information sources which are increasingly available only online, and to each other, using the kinds of virtual networks made possible by the Internet. Thus, technology provides a means to overcome the larger structural issues that underlie poverty and inequality in our society, yet we must first enable access to technology and avenues for people to learn how to use it productively. For these reasons, access and usage have been called the "new civil rights issue."



#### REPORT PURPOSE & OVERVIEW

# This report is written for policy makers, community leaders, funders, and corporate leaders. It has three purposes:

- To distill and share the lessons of "what works" to improve technology access, skills development, and opportunity in low-income communities;
- To widen the circle of leaders active in helping build the technological capacity of low-income communities;
- To help set a "next-generation" agenda for wisely investing in community technology, through public policy, private commitment, and corporate leadership.

#### How THE REPORT IS ORGANIZED

#### The report is organized into four core sections:

- An introduction to the Computers In Our Future program
- ❖ A review of its early results
- ❖ An analysis of what CIOF has found works in diverse communities
- Implications for action

#### AN OVERVIEW

Over the past four years, more than 22,500 low-income residents across California have crossed over the technology gap thanks to a program called Computers In Our Future (CIOF). These community members, who had previously not enjoyed the opportunities made possible through the Internet revolution, are now closer to a better job, a better education, and a better life because of their participation in the program. These gains are impressive, but they don't begin to tell the whole story of Computers In Our Future and what we've learned.

Community leaders have been operating community technology centers (CTCs) in 11 diverse communities across California since early 1998. This report attempts to capture the experiences of these efforts. The CIOF centers provide access to technology and opportunities to learn to use it productively, and play important roles as technology resources and advocates in their communities. (These roles are described more fully in the next section of this report.)

To our knowledge, CIOF represents the most sustained and comprehensive statewide demonstration to date of how to effectively build technology access and skills training in low-income communities. Four years of sustained funding from The California Wellness Foundation totaling \$7.5 million, support from nonprofit, government and corporate partners, a large and diverse group of participants from 11 very different kinds of communities, and a formal evaluation component provide unique insight to share with community leaders, funders, elected officials, and corporate leaders.

Some of what we've discovered "works" (or doesn't work) confirms the findings from other experiences in community technology. Much of what we've learned, however, provides new information about how best to enable residents in low-income communities to fully participate in the new educational, civic, and economic opportunities created by technological change.

Quantitative data about Computers In Our Future cited in this report are from the Claremont Graduate University's program

<sup>&</sup>lt;sup>2</sup>The Benton Foundation. What's at Stake 2: Defining the Public Interest in the Digital Age. June 1997.

<sup>&</sup>lt;sup>3</sup> Irving, Larry, as cited in Benton Foundation, Losing Ground Bit by Bit: Low Income Communities in the Information Age. June 1998, p. 4.

<sup>&</sup>lt;sup>4</sup> California Work and Health Survey, 1998.

<sup>&</sup>lt;sup>5</sup> SBC Internet Services, Over 80% of Graduates Will Turn to Web, Press Release, May 19, 1999.

#### REPORT PURPOSE & OVERVIEW

#### WHY WE WROTE THIS REPORT

At a time when policy makers, corporate and community leaders, and the philanthropic sector are looking for effective models to address the wide gaps faced by some communities in accessing technology and learning marketable technology skills, our experiences with what works provide valuable information to guide future action and ensure its effectiveness. We believe it is especially important to share these lessons now, when the evolution of community technology is young and can benefit most from the well-documented experience of early pioneers. Finally, because our experience base is solid and informative, we believe it is time to share this information with key players in the public and private sectors who are charged with developing relevant policies.

A significant body of information focuses on the important role schools and libraries play in equipping the public for the increasingly digital world. And, while we are now seeing reports that illustrate the need for more effective communitybased access and training, framing the argument for community technology solely around access and training "misses the forest for the trees."

Relatively little recognition has been given to the broader role that nonprofit, community-based organizations can play in meeting the needs of all community residents. CIOF helps paint the picture of what community-based organizations can accomplish that the more mainstream institutions or narrowly focused programs sometimes cannot. We hope it demonstrates concretely why the technology access map that will be developed over the next few years must include trusted community organizations in addition to homes, schools, and libraries.

#### **METHODOLOGY**

Our findings and recommendations are grounded in several kinds of information: data provided by Claremont Graduate University from a formal evaluation of this project over its life span; insights from our day to day work with our colleagues in each of the 11 CIOF communities; feedback on our ideas from CIOF center staff and The California Wellness Foundation leaders; our own organizations' knowledge of and experience in the broader technology field; and anecdotal information from community residents who use CIOF services.



<sup>&</sup>lt;sup>6</sup> Public Policy Institute of California, Just the Facts: California's Digital Divide, March 2001.

### The Technology Gap Today

The latest national and state studies have found that while virtually every population group has increased physical access to computers and the Internet, a huge gap persists—people who live in rural or poor urban areas, are Black or Latino, and have lower education levels still lag far behind wealthier and better educated Americans.

- 76% of Californians use computers at work, school or home; only 48% of households earning under \$20,000 use them.<sup>6</sup>
- Only 47% of Latino households in California access the Internet. By comparison, 70% of non-Hispanic white households go online.<sup>7</sup>
- Nationally, only 24% of African-American and Latino households have access to the Internet. In contrast, 46% of white households have Internet access.8



<sup>&</sup>lt;sup>7</sup> Ibid.

<sup>&</sup>lt;sup>8</sup> U.S. Department of Commerce, Falling Through the Net: Toward Digital Inclusion, October 2000.

### TIFFANY MILES

Tiffany Miles lives in remote and rural Plumas County, California, where job opportunities are scarce. A member of the Native American Maidu Tribe, Tiffany progressed from being a student at the community technology center in her local Indian Education Center to volunteer to a staff employee. The U.S. Forest Service recently hired Tiffany for a full time position specifically because of the computer skills she had developed.



"The CIOF program proves that with sufficient and stable investment, amazing innovations on a cutting edge issue can take place within community-based organizations. Through CIOF, The California Wellness Foundation has made new partners in broadening understanding about the connection between work, skill-building, and long-term health outcomes."

#### Lucía Corral Peña

Program Officer, The California Wellness Foundation

# WHY WAS COMPUTERS IN OUR FUTURE CREATED?

When The California Wellness Foundation first began developing the Computers In Our Future (CIOF) model in 1995, the issue of the "digital divide" was not yet on the public radar screen. However, it was becoming increasingly clear that advances in technology were leaving many communities behind. In addition, The California Wellness Foundation understood that technology training provides a critical link to good jobs, which then lead to healthier individuals and healthier communities. As a fresh approach to ultimately improving the health of California's low-income residents, the Foundation made a sustained investment in teaching young people (ages 14-23) marketable technology skills.

# WHAT IS COMPUTERS IN OUR FUTURE (CIOF)?

CIOF's chief goal is to improve education and employment opportunities for young people by increasing access to training, technology, and jobs. Each CIOF community technology center provides a unique blend of open access to computers on a low-fee or no fee basis; opportunities to learn computer skills that are specifically tailored to the cultural, economic, and linguistic realities of the communities they serve; and programs with a technology focus such as job preparation, academic enrichment for teens, citizenship training, business skills, and ESL.

While many community technology centers across the country provide technology access and training, the CIOF model includes two features that make it more comprehensive than most: first, the expectation that CIOF centers should serve as a technology resource in the community, helping businesses, community organizations, and local institutions use technology to strengthen their efforts and the community as a whole; and second, the expectation that CIOF centers would help develop community voices in local and state policy advocacy efforts. These two features represent two of the most interesting and valuable aspects of the effort.

The map on page 4 displays the locations of the CIOF centers across California. The communities are geographically, culturally, and ethnically diverse: inner-city Los Angeles, San Francisco, and Oakland; less densely populated urban areas such as Riverside, San Diego, and Santa Barbara; agricultural regions like Fresno and Imperial County; and rural parts of California like Plumas and Siskiyou Counties. The types of organizations and partnerships that operate the centers are as diverse as their geography. They include youth centers, a community economic development organization, a county health department, a housing agency, and several educational institutions, all using technology not as their end game, but as a means to achieving their mission and serving their communities.

The CIOF model also includes a team of three nonprofit organizations to provide technical assistance and advocacy support to the centers and their evolving statewide network. Community Partners, based in Los Angeles, coordinated the effort and provided organizational and program assistance to the centers; CompuMentor, based in San Francisco, provided help with technology and program development; and The Children's Partnership, with an office in Santa Monica, spearheaded the corporate partnerships and provided expertise on policy, media relations, and advocacy.

# How Does Computers In Our Future (CIOF) Work?

Each CIOF center provides the following five benefits to their community:

- Access to technology for the people of the community, targeting youth ages 14-23. Computers and related equipment are available for individual use on a drop-in basis.
- Opportunities to learn to use technology productively. Learning opportunities range from basic lessons in how to turn on a computer, to very advanced courses that prepare students for careers as computer technicians or graphic designers.
- Linkages to employment, including internships, employment training, and job search assistance. These experiences help prepare young people for their foray into the world of work, making it easier for them to get and keep living wage jobs so that they can support themselves and their families.
- ❖ A community resource for technology, enhancing the capacity of local organizations, institutions, and businesses through partnerships and by providing technology expertise.
- ❖ A *community voice* to advocate for policies that support and strengthen local communities.

#### CIOF MAP AND SITE DESCRIPTIONS

#### 1. Break Away Technologies

Break Away Technologies operates in the urban core of south-central Los Angeles, serving area youth and adults as well as small businesses, nonprofits, and public entities. This organization was founded during the unrest of 1992 in an attempt to create economic opportunities for area youth. Break Away provides needed access to technology for many of the young people who are often left behind in the overcrowded area schools.

#### 2. Bresee Foundation

Located in the midst of the most densely populated urban area west of the Mississippi River, the Bresee Foundation is a nonprofit organization serving the central Los Angeles neighborhoods of Pico Union, Westlake, Koreatown and South Central Los Angeles. For many of the youth and families in the area, the center is the only place to get comprehensive health, counseling, and job-related assistance.

3. Career Resources dered on the east by the Sierra Nevadas. **Development Center** Career Resources Devel-9. Santa Barbara City College opment Center works in the heart of the vibrant immigrant community in San Francisco's Tenderloin district. Center users range from immiarants and refugees of all ages to homeless and runaway youth identified by municipal agencies and other organizations. CRDC primarily serves Chinese and Southeast Asian youth 10. San Diego Housing Comand young adults. **4. Community Digital Initiative** Community Digital Initiative is a partnership between the University of California and several local community-based organizations in Riverside. The center, with support from the university, works with area nonprofits to reach out to local youth residents, primarily Latinos and African-Americans, and has been the motivating factor in many new initiatives around job creation for a historically underserved area. 5. Central Union High School District The Central Union High School District is located in El Centro, a city of 39,000 in the agricultural Imperial Valley in the southeast corner of income

California near the U.S.-Mexico border. Many center users are young adults, enrolled in either the district's adult school or alternative high school, who are looking to learn skills to better their chance to provide for themselves or their families. For other young people in the community, the center serves as a technology resource center where they can accomplish their school and personal goals through technology access and training.

#### 6. C.T. Learning, Inc.

Based in Fresno and serving many itinerant farmworkers and their families, C.T. Learning, Inc. provides a stable and user-friendly atmosphere for families used to lives of constant movement and turmoil. The high-tech skill development offered at the center is for many a path towards jobs with better benefits, higher academic advancement, and a chance at a better life.

#### 7. Happy Camp Community Computing Center

This sparsely populated area, located in remote Siskiyou County near

the Oregon border, is the ancestral land of the Karuk Tribe, a federally recognized Indian Tribe. The economy of the area has been adversely impacted by the decline of the timber industry, and 85 percent of its 4,000 residents are considered low-income by Federal standards. The tribal community development corporation has joined forces with local education entities to provide a center for youth and families to increase their marketable skills while also furthering their academic potential, and bolstering area businesses and organizations with technology assistance.

#### **8. Plumas County Health Services**

In mountainous Plumas County, where the local population is estimated at 8 people per square mile, there is a strong need for youth and families to have access to technology skills and training to improve their academic potential and bring economic development to the area. Seeing clearly the tie between technology and health access, the Plumas County Health Service established four community technology

centers spread across this rural northeastern county that is bor-

Serving the booming Latino population of Santa Barbara and its outlying areas, the CIOF Center is sponsored by the Continuing Education Division of Santa Barbara City College. The center has identified a demand in the local population for skills that will lead to higher-paying jobs and better educational opportunities as well as a supply of skilled workers. The College is Santa Barbara's primary public sector provider of computer and technology-related instruction, and delivers both English language and bilingual instruction in computer applications and vocational education.

### mission / Casa Familiar Casa Familiar is a grass-roots

community organization serving the comprehensive needs of San Ysidro, a low-

community of 34,000. Located in the southern end of San Diego, at the Mexico-

U.S. border, the city has no high school or major employers. Casa Familiar partnered with the San Diego Housing Commission to establish a center at Casa to provide access to computers, training, and jobs for youth, many of whom were already coming to the center for supportive services and the safety of the facility.

#### 11. Women's Economic Agenda Project

Focusing primarily on local women and families in poverty but looking for ways to become self-sufficient, the Women's Economic Agenda Project (WEAP) in downtown Oakland saw the CIOF program and ideas as a natural way to expand this work and open its doors to more youth. WEAP is using the Computers In Our Future funding to help lift African American and Latina women out of poverty by helping them develop computer and technology-related skills.

### BETHANY ALVAREZ

Bethany Alvarez of Riverside, California, uses the community technology center in her neighborhood to succeed in school, prepare for college, and give back to her local church. She says: "I come from a working class background... CDI has opened the gates of technology for my family that otherwise would have been difficult to access. I know, with my education and increasing knowledge in this new technology, I will be in a position to help my parents and my community in the vears to come."



#### **Break Away Technologies**

Break Away Technologies operates in the urban core of southcentral Los Angeles, serving area youth and adults as well as small businesses, nonprofits, and public entities. This



"CIOF sites have been successful in providing a wide range of technology resources and services in their communities that people value and use frequently. I've been very impressed with their motivation and dedication to working through challenges to find ways to improve technology opportunities—not only for individuals in low income communities—but on behalf of community technology centers everywhere."

#### Laura Gooler, Ph.D.

Claremont Graduate University



#### **Bresee Foundation**

Located in the midst of the most densely populated urban area west of the Mississippi River, the Bresee Foundation is a nonprofit organization serving the central Los Angeles



#### RESULTS

While Computers In Our Future (CIOF) is still relatively young and the formal evaluation is still in progress, early information clearly indicates that the CIOF centers are succeeding extremely well in their goal of providing meaningful technology access to underserved communities. Further, a great deal of anecdotal evidence shows that low-income residents who have participated in CIOF are translating their newfound technology skills into better performance at school, stronger preparation for employment, and greater access to information to successfully live their lives. We anticipate that more extensive evaluation data produced over time will support these findings.

#### CIOF REACHES THOSE WHO WERE PREVIOUSLY UNREACHED

Based on early evaluation results of 22,500 center participants, the centers are succeeding at reaching the previously unreached with technology access and opportunities to learn to use it. The community residents who have used the CIOF centers represent the diversity of California and underscore the need for technology access in underserved communities.

- ❖ In three years, the 11 CIOF programs have served over 22,500 people.
- More than 80% of the center users are people of color (over 60% Latina/o, 12% African American, 4% Asian/Pacific Islander, and 3% Native American).
- Over half of the center users are under the age of 24.
- Over 60% of the centers' adult users have a high school education or less.
- One in five center participants had never used a computer before, and two in five said they were beginners when they first entered the CIOF community technology center.

#### CIOF ENHANCES KNOWLEDGE AND OPPORTUNITIES

Community members use the CIOF community technology centers to gain skills and knowledge, and to access opportunities that enhance their lives.

#### What People Do at CIOF Centers

- ❖ 35% of CIOF center participants are involved in formal technology skills classes
- ❖ 57% use open access time
- ❖ 13% seek employment preparation or assistance
- 14% are involved in other programs or activities

Note: the percentages do not add up to 100 because many people participate in multiple activities.

#### Participants use open access hours and learning opportunities to:

- Learn technology skills
- Develop basic skills such as literacy, numeracy, or English as a second language
- Complete their homework
- ❖ Write a resume and learn job search and retention skills
- Have a safe place to go after school
- Use the Internet to look for a job or obtain information important to their lives

#### RESULTS

#### **What People Learn at CIOF Centers**

At the CIOF centers, people learn technology applications such as word processing, spreadsheets, Internet browsing, desktop publishing, digital imaging, web site development, networking, and troubleshooting. These technology skills are essential for success in school, finding employment, and obtaining information.

- 80% of participants in a pre-post self-efficacy survey said they could perform the tasks and activities without any assistance by the end of the course.
- After participating in a CIOF class, participants also increased their use of computers for a range of activities including schoolwork and personal projects.

Centers also offer classes to help people prepare for the world of work. Pre-employment classes cover such topics as how to write a resume, act during an interview, find a job, and keep it once hired.

#### CIOF and the Employment Link

- Over 2000 youth and young adults across California have used the CIOF centers to gain valuable employment related experience, including internships, employment training, and job search assistance.
- These experiences help prepare young people for their foray into the world of work, making it easier for them to get and keep living wage jobs so that they can support themselves and their families.
- 55% of all adults using the CIOF centers are seeking employment or a better job.
- Even adults who are employed often use the centers to seek a better or higher paying job.
- These adults earn an average of \$8.60 an hour.
- 14% work at 2 or more jobs.

#### CIOF PROVIDES A NEEDED ASSET

The CIOF community technology centers provide community members much more than just physical access to computers.

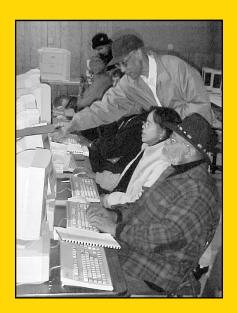
- Nearly 85% of CIOF participants say they have access to technology elsewhere (home, school, work, community-based organization, a friend or relative's home), yet they visit the centers an average of 11 times, and stay nearly 2 hours per visit.
- Participants visit the CIOF centers because:
  - the quality of their access is poor, or they have no help in using the computers at other locations.
  - they seek help with purchasing, using, and maintaining a computer at home.
  - they value the learning opportunities and the sense of collegiality they find at the centers.

#### **CIOF STRENGTHENS COMMUNITIES**

But numbers alone do not convey the impact of the CIOF community technology centers. Some of the most powerful reverberations from this initiative have been felt in the policy process and in the overall economic development and strengthened technology capability of the CIOF communities. The "What Works" section that follows provides many examples.

## VICTOR M. OROZCO

Victor first visited Casa Familiar after a friend invited him to work out at the gym. With the help and encouragement of center staff, he learned that he could use the computers at the center to do his homework. As his interest in computers grew so did his use of the English language. After taking classes and designing his own web page at Casa Familiar, Victor began conducting web design classes for other teenagers at the center. Victor has since finished his Associate Degree in Computer Systems and is now working toward becoming a Cisco Certified Network Professional.



#### **Career Resources Development Center**

Career Resources Development Center works in the heart of the vibrant immigrant community in San Francisco's Tenderloin district. Center users range from immigrants and refugees of all



"We started as just 11 different sites, all with the same goals but arriving at them in a different manner. Now sharing resources is just the baseline for us. I see the network offering a model, already proven to work, to the outside, to the policy arena, motivating other nonprofits to create their own community technology centers, and beyond that, to perceive this technology as a tool to achieve other ends."

#### José Martinez,

CIOF Network Co-Chair and Center Director, Santa Barbara Community College



#### **Community Digital Initiative**

Community Digital Initiative is a partnership between the University of California and several local community-based organizations in Riverside. The center, with support from the



#### WHAT WORKS-IN THE COMMUNITY?

Some of Computers In Our Future's (CIOF) most exciting benefits result from the myriad ways in which centers have served as a valuable community resource and tapped into assets already in the community. Centers have done this in three principal ways:

- Forging Partnerships That Strengthen Program Impact
- Enabling Economic Development Through Technology
- Replicating the Model... Spreading the Benefits

#### Partnerships that Strengthen Program Impact

Partnerships have proven to be one of the keys to CIOF's success. CIOF center staff deliver programs jointly with other community-based organizations and institutions, have relationships with other service providers to meet participants' needs, assist local organizations with strengthening their technology infrastructure, and partner with each other and with the corporate sector.

#### Joint Programs or Services

Many CIOF centers partner with other community-based programs to deliver joint programs or services. These partner ventures range from welfare-to-work, gang intervention, teacher training, and parent involvement to cultural preservation and health promotion programs.

- In Riverside, a parent involvement class run by The Settlement House, a local communitybased organization, uses CIOF to learn to surf the web and locate information about parenting skills and nutrition.
- The CIOF center in Santa Barbara partnered with Girls, Inc., a program to teach young women entrepreneurial and leadership skills. The participants learned to use spreadsheets and word-processing programs to support their business efforts.
- At Desert Oasis High School in El Centro, members of Imperial County's CalWorks (welfare to work) program visit the center for technology skills classes and to get help producing a resume using a computer.

- In rural Plumas County, the CIOF center supports the efforts of a Maidu Native American service center to preserve and teach their indigenous customs and language via an interactive web site.
- In Happy Camp, another rural CIOF site, the center joined forces with the local high school by teaching the school's senior class how to produce a digital yearbook.

#### Referrals to Meet Families' Real-World Needs

Because many center participants have pressing needs that go beyond technology, the most effective centers also maintain relationships with community service organizations. It is not uncommon for participants to need referrals for child care, literacy programs, food, or low cost housing. CIOF centers have found that it is essential to maintain relationships with service providers in their communities so they can exchange referrals and, when necessary, get help for a center participant on a moment's notice.

#### Network of Colleagues

CIOF centers have found tremendous value in turning to one another to share resources, exchange tested ideas and strategies, and implement joint programs. As the community technology field grows larger, the CIOF network of centers (and other groups of technology centers such as the national CTCNet) will play an increasingly important leadership role. Through these networks, center staff can get practical tips and advice easily, saving countless hours by not having to rediscover what others already know or making mistakes that can be avoided. Though each CIOF center holds firmly to the commitment that their offerings must be locally driven, their work also has sufficient similarities that center representatives come away from network gatherings "recharged" and "refreshed". As the corporate sector discovered long ago, infusions of new ideas and new energy are essential to keep the staff and the programs "fresh" and exciting.

#### WHAT WORKS?

#### Corporate Partnerships

The successes of CIOF have been enhanced through important partnerships with the corporate sector. Investments valued at \$1.6 million in cash and in-kind support from our statewide corporate partners were instrumental in helping the centers get off the ground. (See inside front cover for a listing of corporate partners.) These kinds of statewide partnerships have been mirrored at the individual center level through relationships with local technology companies, small businesses, and regional business or trade associations. The investments of CIOF's private sector partnerscontributions of funds, equipment, software, services or labor, involvement on governance or advisory boards, and connections to jobs or internships for program graduates—have proved to be an invaluable part of the centers' ability to operate and sustain high quality programs.

#### **Leveraging Other Community Resources**

The CIOF center staff have been creative in finding ways to leverage the initial California Wellness Foundation grant. They have recruited volunteers (independently and through the Americorps program), developed partnerships with other community service providers to share costs (along with curriculum and program ideas), and fostered partnerships with local corporations and small businesses that have yielded substantial cash and in-kind support.

#### **Enabling Economic Development**

By making their centers, their staff, and even their participants available to assist other organizations and small businesses in the neighborhood, CIOF centers have played an important role in boosting community economic development. Often with the assistance of center staff, young people have started their own graphic arts, web design or other services; people in rural or economically distressed areas have used technology to telecommute or obtain work otherwise unavailable in their area; and residents have used the technology available at a

CTC to start up and run their own small businesses, saving them the otherwise insurmountable capital expenditure to purchase a computer and other equipment. Some examples:

- The teen council at Casa Familiar in San Ysidro started a catering business, using the computer center to estimate costs, prepare bids, and make business cards. All of the teen participants learned valuable lessons about how to run a small business, and several were able to parlay their experience into interviews and part time employment.
- CDI in Riverside hosts organizations' and businesses' web sites, with students working with these groups to develop and maintain their online presence.
- Small business owners in several communities have learned computer skills and used CIOF centers to do things like make advertising flyers, build databases and spreadsheets, and generally automate their systems. Many have gone on to purchase their own computers after first becoming proficient and learning how business software is useful at a CIOF center.

Staffing the CIOF centers has been approached as an opportunity for job development. For example, 25 percent of the staff at the Bresee Foundation in Los Angeles are former youth participants in the program who have now come back to work at Bresee after finishing their education. Casa Familiar and Happy Camp created their own internship programs to hire youth from the community to work at the computer center. These programs not only provided youth with valuable, marketable skills and on-the-job experience, they often helped meet the staffing needs of the organizations as well.

"CIOF reflects our community's successful transition from an infrastructure and an economy based on timber production to a cultural reorientation and a new receptivity to technology-based employment"

#### **John Martinez**

Executive Director,
Karuk Community
Development Corporation



#### **Central Union High School District**

The Central Union High School District is located in El Centro, a city of 39,000 in the agricultural Imperial Valley in the southeast corner of California near the U.S.-Mexico border. Many center users are young adults, enrolled in either the district's adult school or alternative high school, who are looking to learn skills to better



"Through our involvement in CIOF, we've developed partnerships across the county to strengthen community capacity. We're working to provide local access to health information, support workforce development and participate in a county-wide community strategic planning process."

#### **Louise Steenkamp**

CIOF Executive Director Plumas County Health Services



#### **C.T. Learning, Inc.**

Based in Fresno and serving many itinerant farmworkers and their families, C.T. Learning, Inc. provides a stable and user-friendly atmosphere for families used to lives of constant movement



CIOF center staff have also tried to address the "organizational digital divide" that prevents community-based and nonprofit groups from using technological tools to make their work easier and more effective. Accordingly, over the past four years CIOF has helped other community organizations acquire and set up computers for administrative use, develop and use databases, create email lists, build web sites, and develop technological fluency. Although some centers had existing technology programs and infrastructure, none were in the practice of acting as a "technology consultant" for their community.

#### Replicating the Model... Spreading the Benefits

Several of the CIOF sites have gone beyond technology assistance to replicate their programs and support other local community-based organizations in opening and running technology centers in areas of need. For example:

- The CIOF staff at Santa Barbara City College were so effective in running their center that they were asked to take over the leadership of three other centers. They have successfully implemented the CIOF model at each.
- The Happy Camp Community Computing Center in rural Siskiyou County guided a group of motivated community members in opening a volunteer-run satellite center in another town so residents wouldn't have to make the 45-mile drive to the original center.
- In Oakland, the Women's Economic Agenda Project (WEAP) opened a second center in another part of the city to meet an increased demand for their services.
- The C.T. Learning staff in Fresno has begun helping other organizations wire their community rooms and centers. They also share curriculum and program design ideas.

There are many more examples of ways in which CIOF centers have been replicated or used as a model in their local communities. The need for technology opportunity is great, and the centers have received overwhelming feedback that the issues they address and the strategies they use are important to the entire community.

#### WHAT WORKS - IN THE CENTER?

Developing effective programs within a community technology center takes sustained effort. Many CIOF center directors expected that developing the physical space would be more challenging than figuring out what to do in the space. In fact, most found quite the opposite. Setting up the equipment did take considerable time and expertise, but was relatively straightforward compared to figuring out how technology could help achieve their goals, designing programs that met community needs, staffing the activities, and developing curriculum.

#### Start with a Clear Mission, then Harness Technology to Serve It

The CIOF experience has shown conclusively that to have the greatest and longest-lasting impact on individuals and the community, technology should be used as a tool that helps achieve an organization's goals. The most effective programs were those that had a clear vision for what they wanted to accomplish and used technology as a strategy to help get there. Though many initially wanted to defer to the "experts," it was the center leaders and staff who knew best whom they wanted to serve, what they wanted to achieve, and how using technology would make that possible.

More specifically, some of the CIOF centers incorporated computer skills classes and open access time into their larger youth development program. Comprehensive service organizations such as Casa Familiar found that a community technology center perfectly complemented existing programs for youth, adults, and families, and a technology center was a logical program element in the Women's Economic Agenda Project's efforts to lift women and children out of poverty. For each of these organizations, technology programs provided an additional means to serve their communities and meet their organizational goals more effectively. And because they have been integrated in a larger organizational context, the CIOF programs have had a much deeper impact than simply teaching people how to use basic applications or surf the web—they have also enabled people to improve their lives.

#### WHAT WORKS?

#### Take Ample Time to Plan & Prepare

As compelling as this mission-driven approach to using technology sounds, the leadership at CIOF centers faced considerable challenges trying to integrate their technology activities into their larger organizational mission and existing programs. For example, it was challenging at first for a youth development organization to incorporate technology skills and a pre-employment curriculum. However, while it might have been tempting to just open a community technology center alongside other programs, they knew that a center that had only a tenuous connection to a larger effort or organization could flounder due to a lack of purpose or "fit." At the CIOF centers where the programs were the most successfully integrated, careful thought was given to how all the programmatic elements work together.

Not surprisingly given the complexity of designing a program, most centers found that a six month planning period was essential. Center leaders used this time to clarify their vision, design the programs, hire additional staff, ready the physical space, and begin their outreach. Those six months set the stage for what was to come, and instilled in the CIOF staff the practice of assessment, planning, and revamping programs to continually meet the needs of their community.

#### Build a Place Where Residents Want to Be

CIOF staff placed a premium on creating a friendly and inviting environment, a feature which they found to be particularly important for many center participants who have had less than positive experiences in other public settings. One only has to walk into a CIOF center to recognize that it is designed, decorated, and operated with attention to the language and culture of the community. CIOF participants have reported that the centers are places where they can safely test, apply, and transfer their new skills. Further, because of the friendly, supportive atmosphere developed at the centers, many function as a type of community center—a place where community members connect with others in the neighborhood, and get news information about the community and beyond.

Center staff see their role as first helping community members to feel comfortable, and then helping them understand how meaningful and productive uses of technology can have relevance to their lives. The fact that the CIOF centers are run by existing, trusted community-based organizations with a mission that extends beyond technology training is a critical element to insuring that participants feel safe and welcome at the computer centers.

CIOF center leaders also encourage community input about center activities and programs. Staff have successfully used Youth Advisory Boards, community needs and satisfaction surveys, and informal conversations to elicit feedback about what community members want from and for their technology center. In addition, at the most effective centers, the leadership is active in civic, business, and community activities, thus staying close to the pulse of community needs and well positioned to generate needed partnerships and resources.

#### Outreach, Recruitment, and Retention Are Tied to Program Offerings

CIOF centers learned first hand that when the technology programs were not interesting or relevant to the lives of the participants, people would not come in. Outreach has been a challenge for the staff at some centers, in part, they believe, because it took experimentation to find the right mix of outreach strategies, program offerings, and relevant, effective curriculum.

Although center staff used multiple methods to inform community members about what the center offered, they quickly found that word of mouth was the most effective strategy—64% of center participants first visited the center based on hearing good things about it from a family member or friend.

CIOF center staff have discovered that for both youth and adults, the key to creating an engaging class and motivating participants to return is in tying the new skills development to participants' real-world needs and experiences. In other words, if a young person is learning about the Internet by just hearing how rich it is as a resource for information, s/he will probably tune out. But if the participant is involved in an Internet scavenger hunt to find information on a subject that s/he finds interesting, then most will be engaged and inquisitive about how to get the most current and accurate information. The relevance of the material to the lives of the participants proved to be the key to attracting and retaining their interest.

"All the parts of our program work together, and technology has become an important piece... it makes our youth programming more solid and brings legitimacy to our effort to give kids every available opportunity."

#### **Cathy Trout**

Director of Technology and Employment Programs Bresee Foundation



#### **Happy Camp Community Computing Center**

This sparsely populated area, located in remote Siskiyou County near the Oregon border, is the ancestral land of the Karuk Tribe, a federally recognized Indian Tribe. The economy of the area has been adversely impacted by the decline of the timber industry, and 85 percent of its 4,000 residents are considered low-income by Federal standards. The tribal community development corporation has joined forces with local education



"I see over and over that people come in with some skills but a lot of disappointment in obtaining employment and feeling good about themselves. That's where our staff can encourage them and provide support that they don't get in large class settings or other programs. Every single person in our last job-readiness class got a job by the end of the course!"

#### **Tracy Bendix**

CIOF Program Coordinator, Central Union High School District



#### **Plumas County Health Services**

In mountainous Plumas County, where the local population is estimated at 8 people per square mile, there is a strong need for youth and families to have access to technology skills and training to improve their academic potential and bring economic development to the area. Seeing clearly the tie between



#### **Develop Curriculum to Meet Learners' Needs**

Developing curriculum was a particularly challenging but essential task for the CIOF sites. The curriculum development task was made especially daunting at some centers because many of the early instructors had technical rather than educational backgrounds.

Although numerous technology application training courses are available on the commercial market today, the lack of courseware matched to the literacy, language, and community context of CIOF's participants meant that many directors and instructors had to write their own curriculum. This took considerable time and skill. (CIOF center staff discovered that even when they found and chose to use "pre-packaged" curriculum, the courseware had its limitations, and the instructors had to tailor the material to the specific circumstances and interests of their students.) As a result of CIOF's efforts, however, there are now curricular pieces designed for underserved communities that may be useful to other CTCs. (See the CIOF curriculum tool kit at www.ciof.org.)

# Recognize the Importance and Difficulty of the Employment Link

Because the CIOF model envisions employment as a benefit to residents, centers debated long and hard about how they would use their resources to develop employment links. Most built on their strengths and focused on what they could do bestskill building and employment preparation. The CIOF experience made clear, however, that helping participants actually obtain living wage jobs was much more challenging. Center leaders learned that job development, placement, and tracking require significant infrastructure and capacity that was sometimes difficult to develop from scratch. They found it was more realistic to build partnerships with existing job placement agencies and thereby leverage the skills development and employment preparation that the CIOF community technology centers could successfully provide.

#### Find & Retain the Right Staff

Staffing turned out to be extremely challenging for CIOF. Centers needed both a "visionary" and someone to implement the vision and run the operation, two very different kinds of skill sets rarely found in one person. In addition, centers also needed a balance of people with teaching skills, people skills, and technology skills. Finally, with the high demand for employees who have technology skills, retaining staff also proved tough.

Given these factors, it is not surprising that CIOF centers rate finding and retaining the right people as one of their most difficult challenges. They attributed this to the fact that they can't afford to pay market rates (especially for staff with educational or technical training). Some centers find that being located in rural or low-income communities also limits the labor pool. Despite these difficulties, CIOF centers attribute their overall program success to the fact that, where possible, they hired people who have experience with participants' needs and speak the local language. As one CIOF center director said, "It's easier to train a people-person in technology than to train a techie in how to relate to people." Many CIOF staff members now come from the community itself and can more easily build a rapport with participants that is essential for learning.

#### **Pull All the Pieces Together**

To sum up, the CIOF experience has demonstrated that a strong community technology center requires a clear vision, a well thought out program design, a sound curriculum, and high quality staffing, all of which are locally driven and planned. Community technology programs that grow out of community interests and are relevant to the local community will ensure strong results.

#### WHAT WORKS?

# WHAT WORKS - IN THE POLICYMAKING PROCESS?

One of CIOFs most significant legacies is that leaders from low-income communities are now effectively engaged in the policy making process around technology access.

Early on, CIOF center leaders realized that policy decisions made at local, regional, and state levels would be critical to their ability to strengthen and sustain their programs. They also realized the importance of identifying community voices who could speak first-hand about how technology has helped meet the needs of their communities. And they understood that speaking with a collective voice representing centers across the state of California gave them more force, credibility, and access than each speaking alone.

### **Joining Forces**

The first important step to becoming an effective policy voice on technology access for underserved communities was to join forces in a formal statewide network of centers. In 1996, the 11 CIOF centers formed a Policy Workgroup that focused first on developing a shared vision, and then identified ways in which public and private sector policies could advance these goals. They realized that one cogent way to demonstrate the value of a CIOF-like model to policymakers and opinion leaders was to show how community technology strengthened their communities, youth development, and the local economy. These tangible benefits became the framework for articulating a policy agenda, a critical tool for organizing in their communities and communicating these ideas to decision makers. (See Appendix C, CIOF's Policy Agenda.)

#### Making the Case

Another key strategy in working toward sustainability through the policy making process was for CIOF centers to involve their staff, participants, and local partners in making the case to policy makers and private sector leaders. CIOF leaders organized training sessions to help prepare local staff and leaders to effectively participate in the policy process. This experience, which was the first time many had been involved or even interested in advocacy, proved to be an essential capacity-building tool.

Through CIOF, many site representatives have educated their local, state, and federal elected officials about the value of community technology, have spoken publicly about the model at major conferences and legislative hearings, and have been involved first-hand in the policymaking process. The seriousness with which CIOF's voice is treated in technology policy circles underscores the power community leaders can have with extensive "on the ground experience" and a base in communities.

### **Measuring Success**

CIOF recognized that community technology center staff were the experts in community technology and provided them with the tools to participate in the policy making process. Single voices, each with a story to tell, have combined into a collective chorus with the power to be heard and the potential to make a difference. While it is still early in the process, the results to date have been impressive. Governor Davis has invited CIOF to share its recommendations for investing in community technology. A number of state commissions and legislative committees have sought out CIOF's expertise. Local newspapers and radio stations have featured its activities and recommendations. And, perhaps most important, a strong and growing statewide network now exists to take the views of grassroots leaders from underrepresented communities directly to key policymakers.

"The policy work provides a vehicle for us to work collectively towards sustainability of our centers... It's important to have community technology staff realize that they are the experts who should help define the policy agenda."

#### Richard Chabrán

CIOF Network Co-Chair and Policy Coordinator, and Director of the Community Digital Initiative



#### Santa Barbara City College

Serving the booming Latino population of Santa Barbara and its outlying areas, the CIOF Center is sponsored by the Continuing Education Division of Santa Barbara City College. The center has identified a demand in the local population for skills that will lead to higher-paying jobs and better educational opportunities as well



### WHAT YOU CAN DO - IMPLICATIONS FOR ACTION

"If we don't address this issue, a whole generation of kids will be left behind in terms of jobs and opportunities. Some people think that the market will solve the problem because prices for computers and Internet connections will go down. But that won't address the whole issue. Many people are still going to be left behind."

**California Senator Debra Bowen** quoted by Emelyn Rodriquez in *The California Journal*, July 2000



#### San Diego Housing Commission/ Casa Familiar

Casa Familiar is a grass-roots community organization serving the comprehensive needs of San Ysidro, a low-income community of 34,000. Located in the southern end of San Diego, at the Mexico-U.S. border, the city has no high school or major



The Computers In Our Future (CIOF) experience offers volumes of practical insights for the many community, state, and national leaders who are committed to addressing the technology gap they know exists. Perhaps the simplest message to take forward is that one size does not fit all, and there cannot be a franchise approach to addressing community needs effectively through technology. Instead, locally driven solutions must be supported. The CIOF experience has shown that while general principles hold true, what works in rural Plumas County will not necessarily work in urban Oakland or Los Angeles. Furthermore, what works with inner city youth in West Oakland may not be effective with youth in South Central Los Angeles. Each center adapted the basic CIOF concept to best fit its unique community, adjusting services to fit residents' interests and needs and employer conditions.

This overall conclusion is not to suggest that effective community technology programs are not replicable or scalable. We believe they are. However, we believe that funding initiatives will fail if, in a desire to take community technology quickly to scale, they fall into the trap of establishing scores of similar centers that have prefabricated goals and activities and lack a community context.

In fact, the CIOF experience demonstrates that a truly effective community technology program can accomplish far more than train a certain number of students in a software program. It can engage local residents with a broad variety of quality programs, enhance the capacity of local organizations and businesses by providing technology expertise, and influence local, regional, and state policy making in ways that strengthen the local community.

#### MOVING FORWARD

Unfortunately, the high quality programs and staffing so essential for a successful community technology center cannot be done on the cheap. The executive directors of the organizations running CIOF centers have concluded that an annual budget of roughly \$150,000 is the bare minimum needed to run a high quality program that can achieve the range of things CIOF has accomplished. When calculated against the

number of youth and adults each community technology center serves, the average cost is just a few hundred dollars per person. To put this figure into some context, the US spends roughly \$4,360 annually to provide health care to an adult 9 and \$8,180 annually to educate a child. 10

Computers In Our Future has succeeded in large part because it has been a true public/private partnership involving community members, a private grantmaking foundation, and numerous nonprofit, corporate, and public sector entities across the state. The involvement of each partner has been vital, and suggests specific ways different sectors can help accomplish community technology solutions.

#### IMPLICATIONS FOR COMMUNITY LEADERS

Perhaps our strongest suggestion for community leaders is to develop a clear vision of what technology can do for your community, and then let that vision guide program design. Both community leaders and community members will need to take up the mantle of holding true to that vision, protecting it against the dangers of shoddy implementation and resisting the temptation to chase trendy funding streams.

Staying true to the vision also means recognizing that certain things are best left to partners. For example, in their efforts to leverage the core strengths of CIOF centers, the centers found that while employment training can be very effective at the centers, employment placements were usually best done through allies and partners.

We encourage those new to the field or those who have been frustrated by the lack of results to seek out advice from others who have gone before. The CIOF centers are committed to documenting what we have learned and what we wish we had known when we first began. Our website at **www.ciof.org** includes a community technology toolkit to help plan and operate a community technology center.

Finally, we urge community leaders to lend the weight of their added voice and expertise to the growing advocacy movement to promote community technology by getting involved in public and corporate policymaking.

<sup>&</sup>lt;sup>9</sup> Table 1: National Health Expenditures Aggregate and per Capita Amounts, Percent Distribution, and Average Annual Percent Growth, by Source of Funds: Selected Calendar Years 1960-99, Health Care Financing Administration, Office of the Actuary: National Health Statistics Group; U.S. Department of Commerce, Bureau of Economic Analysis; and U.S. Bureau of the Census.

Table 170, 1999-2000 Estimates, U.S. Department of Education, National Center for Education Statistics, Statistics of State School Systems; Revenues and Expenditures for Public Elementary and Secondary Education; and Common Core of Data Surveys. (This table was prepared May 2000.)

#### WHAT YOU CAN DO - IMPLICATIONS FOR ACTION

# IMPLICATIONS FOR THE PHILANTHROPIC SECTOR

If there is one principal point for the philanthropic community to take from the CIOF experience, it is that building successful technology initiatives that address real community problems requires a sustained commitment and a willingness to experiment. Had CIOF's funding stopped after one or even two years, relatively little would have been accomplished or learned. Sustained support, which recognizes the value of trying out untested ideas, is crucial. It is worth noting that the corporate sector used trial and error and experimentation for many years before it zeroed in on the most effective ways to deploy technology. Funders can play a leadership role in seeding this spirit of experimentation, insisting that efforts address real community needs, and helping to distill the lessons from this period of experimentation.

As a starting approach, funders can take from the CIOF experience some confidence in a community-driven model that goes beyond access and training to assure that programs will both have a community impact and be sustainable beyond the life of a grant. Foundations can also leverage their investments through programs that not only deliver effective technology training but also work to strengthen the technology capacity of local businesses and other organizations in their neighborhoods. Philanthropic investors are likely to get the biggest "bang for the buck" through programs that forge partnerships with other direct service and training programs, employers, and trusted community-based organizations.

Finally, we urge funders to resist the temptation to create models of technology programs that are thrust upon communities as a pre-fabricated package. In their zeal to find programs that close the technology gap, foundations ought to realize that local efforts must be allowed and even encouraged to look different, depending on the community.

# IMPLICATIONS FOR THE CORPORATE SECTOR

There has been a marked increase over the past few years in the corporate sector's interest in technology in low-income communities. They understand that low-income communities represent one of the few remaining untapped markets. We applaud this corporate interest, for without it, CIOF would not be what it is today.

We urge others in the corporate sector to get involved through any of a number of ways that local leaders find valuable—contributing up-todate hardware or software, offering internships or apprenticeships, lending staff as mentors or teachers, helping to identify the skill sets that are most marketable in a given community, lending support to policies that bolster community technology efforts, and contributing cash or inkind services. Whatever the form of involvement, it will make the most difference if it is offered in service of accomplishing the community's goals. Once community and corporate leaders focus together on desired outcomes, private partners can offer the appropriate expertise, contacts, employment opportunities, and other needed assets.

# IMPLICATIONS FOR PUBLIC POLICY MAKERS

Community technology offers new solutions to problems that policymakers have grappled with for many years—developing a workforce with the skills demanded in the new economy, keeping young people safe during non-school hours, and enhancing educational achievement among people of all ages. The challenge for policy makers, therefore, is not whether to take a leadership role on technology policy issues but rather how; and how to be certain that the benefits available through technology reach those at risk of being left behind, including residents in low-income communities.

The CIOF experience demonstrates that in addition to the vital role schools and libraries play in providing technology access and training, trusted community-based organizations are an essential part of the solution. The participants in CIOF had been and were likely to remain bypassed by more traditional institutions. Yet trusted neighborhood places were able to recruit them in, gain their confidence, retain them, and impart valuable new skills and opportunities.

The most important take-away for policy makers is that any public funding source that supports technology skills acquisition should include community-based organizations among eligible grantees. This includes allocations through the federal Workforce Investment Act, matching grant programs that bring down federal funding, education programs, youth outreach and diversion programs, and e-government. It will be important for these entities to provide sustained funding that covers the range of high quality program activities proven effective by the CIOF experience—open access, life and job skills training, academic enrichment, and linkages to employment, community services, and economic development opportunities.

"Computers In Our Future is very much in line with Adobe's community relations goals. It's a community-based program supporting existing schools and community centers. The focus is on training and technology, and reaching out to low-income, underserved populations. Given all these factors, this partnership was the right thing for us to do."

#### **Dyanne Compton**

Manager, Adobe Community Relations



#### The Women's Economic Agenda Project

Located in the heart of downtown Oakland, brings together technical training and supportive services to low-income women



### KARINA MARTINEZ

Karina Martinez is 20 years old, the single mom of a 2-year-old son, and lives with her mother. She never attended high school due to intense gang involvement. Karina was interested in enrolling in a training and job placement program at the Bresee Foundation, but childcare was a major obstacle for her. The Bresee staff connected Karina to low-cost care and helped her enroll in the TANF program to supplement the stipend she would earn as a program participant. Close to completing the 24-week program and her internship, Karina shared that her supervisors have already expressed the desire to eventually hire her as a permanent employee.



"Being educated by CDI goes beyond ... particular computer skills...I can easily say that CDI has been that first step in preparing me for what the future has to offer."

#### **David Gamboa**

participant in CDI's Webcamp through the UC Riverside Upward Bound Program

#### IN CLOSING

One thing is certain: Over the next decade the map will be charted both in California and nationally for who has technology access and how they use it. The wealth of first hand experience provided by Computers In Our Future illustrates how community-based organizations can effectively address the technology needs of low-income neighborhoods. Computers In Our Future also demonstrates a proven model, worthy of public and private investment. The challenge now is to take these ideas to scale so that low-income residents far beyond the 22,500 served by CIOF can benefit. The partners involved with Computers In Our Future stand ready to lend our insights and time to extend the benefits to many more communities, their employers, and their residents.



### Appendix A - Resources

#### **General Information about Community Technology**

Breeden, Laura, Steve Cisler, Vivian Guilfoy, Michael Roberts, and Antonia Stone.

Computer and Communications Use in Low-Income Communities. Annie E.

Casey Foundation. December 1998. www.ctcnet.org/casey/

This paper reports on a survey of five community programs based in different cities that offer low-income people opportunities to learn to use computers and on-line communications

Chow, Clifton, Jan Ellis, June Mark, and Bart Wise. *Impact of CTCNet Affiliates:*Findings from a National Survey of Users of Community Technology Centers. CTCNet Research and Evaluation Team at Education Development Center, Inc. July 1998.

#### www.ctcnet.org/impact98.htm

This report, based on a survey conducted at 44 centers, includes directions and hypotheses for further research, and recommendations for sustaining the positive effects of community technology centers.

Computers In Our Future public information materials and toolkits. **www.ciof.org**Information includes: CIOF Policy Agenda, CIOF At A Glance, CIOF Newsletters,
articles, and toolkits about how to operate a community technology center.

Technology Opportunities Program (formerly Telecommunications and Information Infrastructure Assistance Program [TIIAP]). Various reports. U.S. Department of Commerce, National Telecommunications and Information Administration, Office of Telecommunications and Information Applications.

#### www.ntia.doc.gov/otiahome/top/publicationmedia/topreports.htm

The TOP/TIIAP program has published several reports that address evaluation and lessons learned from their grants, which support practical applications of new telecommunications and information technologies to serve the public.

# The Role of Community Technology in Economic Development and Public Policy

Benton Foundation and Digital Divide Network. Various reports. www.Benton.org

The Benton Foundation has done significant work in the areas of communications policy and the digital divide. See especially their seminal report Losing Ground Bit by Bit:

Low-Income Communities in the Information Age (1998) and Beyond Access:

Understanding the Digital Divide, transcript of a May 2000 speech delivered by Senior Associate Andy Carvin in which he argues that in order to solve the digital divide, we must look beyond the access issue and examine the importance of literacy, content, and community development.

Garces, Roberto F. Experts Propose Policies to Bridge California's Digital Divide, Improve Health. The California Center for Health Improvement (CCHI). March 2000.

#### www.cchi.org/pdf/WrkHlth2.pdf

This publication demonstrates how the digital divide contributes to differences in health status by offering evidence that people who use information technology at work generally have higher incomes and better health characteristics than those who do not.

Gordo, Blanca. "The "Digital Divide" and the Persistence of Urban Poverty. Planners Network Newsletter, May-June 2000. www.plannersnetwork.org/may\_00/gordo.html

This report argues that the digital divide and its solutions can only be understood

This report argues that the digital divide and its solutions can only be understood within the context of the social and economic challenges that low-income and underserved populations face.

Lazarus, Wendy, and Francisco Mora. Online Content for Low Income and Underserved Americans. The Children's Partnership. March 2001. www.childrenspartnership.org

This report examines and makes recommendations about Internet content for underserved Americans (e.g., low-income, limited-literacy, non-English-speaking).

Nothing But Net: American Workers and the Information Economy. Part of the Work Trends series by The Heldrich Center for Workforce Development at Rutgers, The State University of New Jersey, and the Center for Survey Research and Analysis at the University of Connecticut. February 2000. www.heldrich.rutgers.edu/

This report includes information on how workers view technology and why technology is important for employment.

Pinkett, Randal. Bridging the Digital Divide: Sociocultural Constructionism and an Asset-Based Approach to Community Technology and Community Building. Paper presented at the 81<sup>st</sup> Annual Meeting of the American Educational Research Association (AREA), New Orleans, LA. April 24-28, 2000.

#### www.media.mit.edu/~rpinkett/papers/index.html

This report focuses on how to address the marked differences in computer access and use across socioeconomic and racial groups.

Servon, Lisa. Bridging the Technology Gap: How to Create Effective Community Technology Centers. Snapshots, The Aspen Institute Nonprofit Sector Research Fund. December 2000. www.nonprofitresearch.org

Key findings from an earlier report that focuses on challenges community technology efforts face, suggestions for establishing CTCs, and policy recommendations for all levels of government.

### **Measuring the Digital Divide**

State and National Surveys

Moller, Rosa Maria. Profile of California Computer and Internet Users. California Research Bureau. January 2000. www.library.ca.gov/html/statseg2a.cfm
Prepared by the California Research Bureau using data from the December 1998
Current Population Survey. This link has a list of all the Research Bureau reports.

Public Policy Institute of California. *Just the Facts: California's Digital Divide.*March 2001. www.ppic.org

One in a series of fact sheets and surveys about California that periodically addresses the digital divide.

UCLA Center for Communication Policy. The UCLA Internet Report: Surveying the Digital Future. October 2000. www.ccp.ucla.edu/pages/internet-report.asp

This study provides a long-term exploration of how life is being transformed by computers and the Internet, with year-to-year comparisons of the social and cultural changes produced as people use this technology.

U.S. Dept. of Commerce. Falling Through the Net: Toward Digital Inclusion.
October 2000. www.ntia.doc.gov/ntighome/digitaldivide/

This is the fourth in the U.S. Dept. of Commerce series on Internet access and use in America. The report also includes first-time information on the spread of high-speed Internet access and Internet use by people with disabilities.

Regional Surveys

Baldassare, Mark. *PPIC Statewide Survey: Special Survey of the Central Valley.* Public Policy Institute of California. San Francisco, 2001. **www.ppic.org/** 

Barrales, Ruben. Silicon Valley's Digital Divide. 2000. www.jointventure.org

Neiman, Max, and Richard Chabrán. *Unequal Patterns of Cyber Access in the Inland Empire*. Center for Social and Behavioral Science Research, University of California, Riverside. 1999. **clnet.ucr.edu/cyr/cyberaccess.htm** 

Regional Technology Alliance. *Mapping a Future for Digital Connections: A Study of the Digital Divide in San Diego County.* Regional Technology Alliance. San Diego, 2001. **www.sdrta.org** 

#### **Community Technology Groups**

America Connects Consortium

A program to provide technical and organizational assistance to the more than 400 CTCs currently funded by the Department of Education and the many other CTCs that have been established in low-income communities with other funding.

#### www.ctcnet.org/americaconnects/

Community Technology Centers' Network (CTCNet)

A national, nonprofit membership organization of more than 450 independent community technology centers.

### www.ctcnet.org

**HUD Neighborhood Networks** 

A community-based initiative created by the U.S. Department of Housing and Urban Development (HUD) to bring digital opportunity and lifelong learning to residents of insured and assisted housina.

#### www.hud.gov/nnw/nnwindex.html

PowerUp

A public-private initiative to give access to technology and information technology training to underserved youth.

#### www.powerup.org



### Appendix B - The Computers In Our Future Toolkits

After years of hard work, experimentation, some mistakes and many successes, the people involved with Computers In Our Future (CIOF) learned a great deal about how to run community technology centers. These lessons range from big picture program issues like how to structure open access or how to effectively fundraise to nitty gritty day-to-day issues like which math software is most interesting to 10 year olds or how to keep CTC patrons from deleting important system files.

In an effort to disseminate the tips we discovered and help other CTCs avoid recreating the wheel, CIOF center staff and the Coordination Team have developed a series of Toolkits on CTC program development, curriculum, technology solutions, and other issues.

The CIOF Toolkits cover topics such as:

Center Startup Checklist — A tool to help an organization starting (or operating) a CTC think through many of the issues that need to be addressed when planning programs, technology, partnerships, outreach strategy, and more.

- Sustainability Checklist Intended to assist in sustainability planning for a community technology center (CTC). Includes review of vision, programs, funding, and technology.
- Center Management and Operations Includes sample forms, sample rules and policies, and a complete toolkit on operating a volunteer run CTC.
- Curriculum and Instruction Includes a section on program and curriculum design, sample multimedia curricula, job readiness curricula, and activities for open access.
- **Employment** Contains comprehensive information on job development programs.
- Computers and Technology Technology planning forms and ideas for computer maintenance (such as ghosting and network security) specific to CTC computer labs.
- Policy Includes a 10 step primer that lays out CIOF's strategy for building policy support for community technology efforts.

These toolkits are available for downloading from the CIOF web site at www.ciof.org/toolkits/

### Appendix C - A Policy Agenda for Community Technology:

#### Assuring that Low-income Communities Benefit From Technological Progress and the Information Age

The use of computers and the Internet is rapidly changing the skills employers expect, the way students learn, the way people get jobs, and the way communities solve problems. Former Secretary of Commerce William M. Daley recently remarked that "In a society that increasingly relies on computers and the Internet to deliver information and enhance communication, we need to make sure that all Americans have access." Yet, Falling Through the Net: Defining the Digital Divide, documents that while many more Americans are getting connected to the Internet there is a serious gap between those who are connected and those who are not connected. The following groups have been identified as being part of the "least connected": rural poor, rural and central city minorities, single-parent households, and female-headed households. The result is that many low-income communities are being left out of this information revolution and are deprived of the sense of hope and economic opportunity it offers. Growing evidence demonstrates the impact of information technology on the changing world of education, work, and health:

- The majority of jobs today require technological skills—whether for young people entering the job market, people transitioning off of welfare, or workers looking to advance their careers;
- Over the next seven years, more than one million new jobs will be created in computer-related fields alone,<sup>3</sup>
- People who use computers on the job earn 43% more than other workers;<sup>4</sup>
- Employed Californians who use a personal computer report significantly better health status and significantly lower depression levels than employed Californians who do not use a personal computer;<sup>5</sup>
- Less than two-thirds of Californians who are employed, but do not use a personal computer, have health insurance.<sup>6</sup>

The next few years represent a crucial window of opportunity in which the public and private sectors can take concrete steps to bring the benefits of the information age to low-income communities. On a national, state, and local level, policies are being debated and shaped that will affect the future of access to technology for communities of all income levels. Without bold action, many people will be left out of the evolving digital world and its related economic opportunities. Proactive and targeted measures are required to address the divide between those who have access to technology and those who do not.

#### **Building on what is known**

A handful of initiatives in low-income neighborhoods are beginning to show the positive difference technology access and training can make when delivered by trusted community organizations. Through a seven and a half million dollar demonstration project, funded by The California Wellness Foundation, called Computers In Our Future

(CIOF), eleven community-based organizations throughout California are recruiting previously unreached clients into their technology centers. As a result, low-income residents who have experienced limited success in the past are finding new hope in the marketable skills they are learning and in the job placement assistance they are receiving at their local community technology center. Due to the holistic approach these organizations can offer, residents are leaving with a sense of being a valued member of their community and businesses are finding a more prepared workforce.

#### Why community-based organizations?

According to a recent Commerce Department study of technology access in the United States, "establishing and supporting community access centers, among other steps, will help ensure that all Americans can access new technologies."

CIOF is demonstrating that the following features of community-based organizations are crucial to their success in recruiting and training previously unreached clients:

- Community centers or community-based organizations are friendly and inviting places that are established and respected parts of a neighborhood;
- Center staff are skilled at dealing with the related needs that intended community technology users often bring, such as low-literacy skills, unemployment or housing issues;
- Centers offer a much-in-demand environment beyond access to computers a staff that can train, mentor or coach and local leadership that can communicate in the local language(s);
- Community-based organizations have missions that are molded for their specific community, thus have outcomes that reflect the geographic and cultural needs of the target populations; and
- Community-based organizations are well-positioned to bring different sectors of their community together and to act as technology resources for other organizations.

#### A promising model

A look at the evaluation results of technology centers in community-based organizations best shows their potential:

- CIOF is reaching previously unreached populations. More than eighty percent of the center users are Latino/a, African American, Asian American and Native American, which is consistent with California statistics on where the greatest technology needs exist;
- Community technology centers are providing computer access and training not otherwise easily available for the clients; 8 and
- CIOF centers are being well used. In three years, the 11 CIOF centers served over 22,500 people. Users made an average of 11 visits, staying for nearly two hours each time.<sup>9</sup>

Daley, William M., Secretary of Commerce, Falling Through the Net: Defining the Digital Divide, National Telecommunications and Information Agency, July 1999.

<sup>&</sup>lt;sup>2</sup> National Telecommunications and Information Agency, Falling Through the Net: Toward Digital Inclusion, October 2000.

<sup>&</sup>lt;sup>3</sup> Irving, Larry, Assistant Secretary of Commerce for Communications and Information, Remarks, "The Ed Tech Challenge: Training our Youth for the 21st Century," at the Mississippi Educational Technology Luncheon, Jackson, Mississippi, January 27, 1999 [as prepared].

<sup>&</sup>lt;sup>4</sup> The Benton Foundation. What's at Stake 2: Defining the Public Interest in the Digital Age, June 1997.

<sup>&</sup>lt;sup>5</sup> California Work and Health Survey, 1998.

<sup>&</sup>lt;sup>6</sup> California Work and Health Survey, 1998.

<sup>7</sup> National Telecommunications and Information Agency, Falling Through the Net: Defining the Digital Divide, July 1999. See also the Impact of CTCNet Affiliates: Findings from a National Survey of Users of Community Technology Centers.

<sup>8</sup> National Telecommunications and Information Agency, Falling Through the Net: Defining the Digital Divide, July 1999.

<sup>&</sup>lt;sup>9</sup> Claremont Graduate University Evaluation Team. Computers In Our Future: Statewide Data on Center Users.

#### Appendix C - A Policy Agenda for Community Technology:

#### Two priorities for policy action

CIOF and other community technology centers in low-income neighborhoods provide a valuable model for extending the benefits of technology to low-income communities. They are strengthening the economy of these neighborhoods and building stronger communities. To promote further access to technology for low-income communities, these recommendations for public and private sector action deserve attention:

### Allocate Technology Resources for Community-based Organizations in Low-Income Neighborhoods

- Direct a portion of workforce development dollars and funding for after school programs toward technology training in community-based organizations;
- Direct a portion of funding for juvenile justice and other crisis intervention for kids towards technology centers as a prevention strategy; and

Create a dedicated funding source to expand CIOF-like centers in low-income communities across California.

#### Raise Levels of Technology Literacy in Low-Income Communities

- Establish technology fluency standards to prepare residents for the jobs of today and tomorrow and to enable them to be full participants in economic, civic, social, and cultural life;
- Provide support, through resources and technical assistance, to mentors and tutors in community technology centers to enable centers to effectively meet the diverse needs of clients entering the workforce; and
- Support technology training programs that offer flexible learning environments and provide support for a range of career training opportunities, including adult basic skills, articulated welfare-to-work programs, and technology skills.

We hope that this community technology agenda and our recommended policy steps will help guide decisions as state, city and county elected officials along with corporate leaders allocate resources for education, technology and workforce development.

For further information on these issues or if you are interested in joining in this effort:

Please visit our web site at www.ciof.org or contact: Richard Chabrán, CIOF Policy Group, (Center for Virtual Research, UC Riverside) 909-787-3852 — chabran@clnet.ucr.edu or Wendy Lazarus, CIOF Coordination Team (The Children's Partnership) 310-260-1220 — wlazarus@childrenspartnership.org

