

Chapter 6

CASE STUDY: SEATTLE, WASHINGTON

THE SEATTLE CONTEXT

The Seattle region has become a leading center for advanced technology in computer software, biotechnology, electronics, medical equipment, and environmental engineering. Microsoft, the biggest personal computer software company in the world, is one of 2,200 computer development firms in the area. Boeing, the largest employer in the region, also has had a huge impact on the region's labor market, employing a large share of the region's high-tech labor pool of engineers, computer programmers, and software specialists.

Given Seattle's economic base, it would seem to come as little surprise that the region is also a hotbed of community technology activity. Certainly the presence of Boeing, Microsoft, and other high-tech firms in the region has been important in fueling support for community technology initiatives. The industry presence has provided a vast pool of skilled volunteers and has helped place issues of technology access on the agenda of many public officials and residents. However, as in Austin and Pittsburgh, many community technology activists believe that the high level of community technology activity is attributable to more than merely the presence of technology-related industries. In Seattle, activists point to the strong neighborhood-based approach to planning and service delivery as well as the passion on the part of community technology actors and community leaders.

The City of Seattle has taken a lead in narrowing the digital divide between rich and poor, Whites, and minorities. The City has set aside a portion of the revenues from cable franchise fees to support and implement community technology initiatives and employs a Community Technology Planner, the first such position in the nation. Despite the level of community technology activism and leadership on the part of local government, technology advocates assert that more must be done to ensure universal access to computers and information technology.

HISTORY OF PUBLIC SUPPORT

Local Government Support

In 1995, the City of Seattle established the Citizens Telecommunications and Technology Advisory Board (CTTAB) to study and make recommendations to the mayor and City Council on issues of community-wide interest relating to telecommunications and technology. The board consists of 15 members; with eight are appointed by the mayor and seven are appointed by the City Council. In addition to their advisory role, CTTAB members:

- encourage and promote affordable access to and use of telecommunications and technology;
- advocate, solicit, and facilitate citizen participation in telecommunications and technology decision making;
- measure and evaluate the effectiveness of telecommunications and technology policies and programs (CTTAB 1999).

Under the leadership of council member Tina Podlodowski the City established the Citizens Literacy and Access Fund in 1997, thereby boosting the City's commitment to narrowing the digital divide. CTTAB has used the fund, which is capitalized by a portion of the City's cable franchise revenue, to develop a number of Citizens Literacy and Access Projects designed to improve access to information technology in underserved communities, improve technology literacy, and build public awareness around information-age issues and planning. To implement the projects, the board used a portion of the money to create a position within the Executive Services Department (ESD), which is responsible for citywide information technology planning and implementation. In October 1997, David Keyes was hired to fill the post, making Seattle the first city in the nation to have a community technology planner.

The first Citizens Literacy and Access project was the development of a Technology Resource Map, a directory of technology initiatives in the city. Although there were a number of community labs in operation by the time the Citizens Access and Literacy Fund was established, these initiatives lacked visibility and coordination. The Technology Resource Map has helped publicize existing sites and has facilitated coordination between technology initiatives. Building on the Technology Resource Map, the ongoing Access for All Project seeks to increase the number of public access sites in the city, upgrade equipment and services at existing sites, encourage volunteering and mentoring at CTCs, and help foster open-lab time at sites, such as schools and businesses, that are not currently made available for public use.

Through the Seniors and Technology Literacy and Access Project, the City has conducted an assessment of technology needs in the senior community and developed a directory of senior access centers and programs. Based on the assessment, the City of Seattle and CTTAB are creating a Seniors Training Seniors Institute, which will provide training to enable and encourage senior citizens to teach basic computer literacy skills to their peers, and a Technology Procurement Cooperative Pilot Program, which is intended to facilitate lower-cost or free hardware, software, and Internet services for CTCs serving seniors and individual senior citizens. Other Citizens Literacy and Access Fund projects include Neighborhood Technology Forums focused on particular community needs and the Information Technology Impact Indicator Project, which seeks to develop a working definition of basic technology literacy and a set of technology impact indicators to measure the impact of information on the health and vitality of the Seattle region.

The largest portion of the Citizens Literacy and Access Fund has been allocated to the establishment of the Technology Matching Fund, which provides cash to Seattle's neighborhood-based and citywide organizations for citizen-driven technology literacy and access projects. Organizations are required to match the contribution of cash from the fund with volunteer labor, materials, professional services, or cash. To receive support

projects are required to increase points of public access to computers and information technology; support information technology literacy education and training; and/or encourage information technology applications that support neighborhood planning and action (City of Seattle 1999). Projects must also involve community members in the identification, planning, and execution of the project. Although all projects meeting these criteria are eligible for support, those which address the needs of technology underserved people are given greater priority.

The Technology Matching Fund was modeled after the City of Seattle's Department of Neighborhoods matching fund. Aki Namioka (1999b), a CTTAB board member and longtime community technology activist who has helped evaluate Matching Fund applicants, recalls that

The Department of Neighborhood's existing matching fund project wasn't funding a lot of technology projects. In addition, they were restricted to funding projects that were neighborhood based. However, we know that technology by its nature is not only creating communities in a physical geographic location, it's also creating communities on line. So we wanted to . . . fund technology-focused projects that were not necessarily neighborhood based.

However, many of the projects supported by the Technology Matching Fund have in fact been neighborhood based, facilitating a collaborative relationship between CTTAB and the Department of Neighborhoods and allowing neighborhood organizations that undertake technology initiatives to tap into two funding sources. Namioka (1999b) reports that:

Some of the projects were neighborhood based and so we would only partially fund the projects. The Department of Neighborhoods would fund for the rest of the amount that the project was asking for out of the larger pot that they had . . . [The Department of Neighborhoods] trusted our evaluation. If we gave a thumbs up to a project by funding it at least partially, it indicated to them that it was a good project and they felt more comfortable funding it. So there was a good synergy between us and the Department of Neighborhoods matching fund program.

The Technology Matching Fund consists of two categories. The first is for larger-capacity building projects that take up to 12 months to complete and require up to \$50,000 in matching funds from the City. CTTAB also has set aside a portion of the total matching funds so that organizations can also apply for \$10,000 or less in matching funds for small and simple projects. The Technology Matching Fund is not meant to provide ongoing support to CTCs; however, in addition to providing hardware and software, city funds can be used to support staff or to increase outreach. Staffing and operating costs are some of the biggest challenges facing CTCs. As Keyes (1999b) notes, the flexibility of the matching fund has been very important in helping CTCs to meet these challenges:

Our goal for [the Technology Matching Fund] was to increase infrastructure out in the community that helped programs develop greater sustainability, increase access and also provided literacy efforts. We haven't seen [it] as an ongoing supporting fund. . . . But we did make it clear that some of those funds didn't just have to be used for hardware, and that's been an important component working with community groups—work on getting somebody in place, work on helping do volunteer recruitment and so on and help the centers to run. The equipment's almost easier to come by.

Namioka (1999b) believes that the flexibility of the Technology Matching Fund adds to the creativity of community technology initiatives:

So, [the matching fund projects aren't just about] literacy, but trying to provide ways, and creative ways, for people to interact with technology and find a use for it. . . . It was a lot of fun to evaluate these projects and to read about them. One thing we found, was that if we tried to mandate things, for example if we said, "Well, you are going to get a certain amount of money," there [would be] a lot less enthusiasm or follow through than if we say to people, "Here's a pot of money but you have to show us that you already a project."

In the first two years of the Technology Matching Fund, the City allocated \$300,000 to community technology projects. The City has earmarked \$159,500 per year for the fund in 1999 and 2000.

Through the Citizens Literacy and Access Fund, CTTAB has been successful helping expand community technology initiatives in the city and has enabled existing programs develop greater sustainability. In addition, the Fund has also been very important in raising public awareness about the digital divide and expanding support for community technology initiatives. Through city initiated and supported projects and programs, local officials and community groups see first hand how technology can be used as a means to help reach community development ends.

Promoting Universal Access through Cable Franchise Agreements

In 1996 King County, Washington, which includes the City of Seattle and a number of other cities and unincorporated areas, signed a landmark franchise agreement with TCI. In accordance with the agreement, TCI was to rebuild its cable system within three years to increase its size, quality of service, and reliability. The rebuilt system would also allow TCI to offer new services, including high-speed Internet access. As part of the rebuilding project, TCI was to assist the county in building an I-Net for schools, libraries, and other public facilities and to provide those facilities with free cable service.

King County is the franchising authority for the unincorporated areas; cities and municipalities represent the incorporated areas. In the 1996 franchise agreement with the City of Seattle, TCI was to rebuild its system to allow for the provision of high-speed Internet access. The City did not, however, ask for assistance in building an I-Net. The City has an array of publicly owned fiber-optic infrastructure, and it did not want to rely

on TCI to maintain its private network. Moreover, the City did not want cable subscribers to pay the cost of the institutional network (Network Democracy 1999c).

TCI failed to meet the contractual deadline by which they had promised to provide the entire Seattle service area with an advanced cable infrastructure. This failure, coupled with AT&T's recent acquisition of TCI, provided a unique opportunity for local officials to leverage even further concessions than those negotiated in the 1996 franchise agreement.

CTTAB participated in the process, providing the City Council with recommendations developed from citizens' input, a review of the TCI franchise agreement, and briefings from the city cable office. CTTAB recommended that TCI provide a minimum of 1,500 cable drops that would provide free or subsidized cable and high-speed Internet access, including multiple connections for nonprofit and public sites (e.g., nonprofit health and human services organizations, community centers, libraries, and cable public access facilities).

CTTAB's request for cable drops was scaled back in the renegotiated franchise agreement. TCI will provide 500 cable drops throughout the city. TCI is nearing the completion of the build-out, and by the end of the year, the entire city is scheduled to be equipped with cable modem service. City officials have not yet determined the location of the cable drops. CTTAB may work with the city to help provide input regarding where they should be located.

While the cable drops represent a step forward in expanding access for Seattle's residents, many community technology advocates feel that the concessions made by TCI/AT&T have not gone far enough. As a condition of its approval of the transfer of TCI's control to AT&T, CTTAB also recommended to the City Council that TCI should be required to open access to its cable modem infrastructure to all Internet service providers (ISPs), including small, local commercial ISPs and nonprofits (e.g., the Seattle Community Network, a public-access computer network that supports 6,000 active users, provides email training and web space for community groups and individuals and serves as a community-based rather than commercial portal). Such a measure would require TCI to unbundle the price of Internet service and access to their cable infrastructure. Proponents of this position view open access as a means of spurring competition in the ISP market, thereby expanding choice and reducing prices for consumers.

The Seattle City Council did not follow CTTAB's suggestion regarding open access. In a related case, which CTTAB and the City Council had been following closely, AT&T had sued the City of Portland for including open and equal access to the cable infrastructure as a requirement for the transfer of control from TCI to AT&T. As Portland appeared to be heading toward a prolonged legal battle with the telecommunications giant, the Seattle City Council tried to negotiate an agreement that would not result in a similar lawsuit (Namioka 1999a).

The Transfer of Control legislation adopted by the Seattle City Council did however, include a clause that would empower the City to renegotiate franchise terms if changes in federal law allow the City to impose pricing unbundling on AT&T, or if AT&T captures more than two-thirds of the high-bandwidth market through cable modem or other high-bandwidth offerings. As Namioka notes (1999a): "These reopener provisions are unique to the City of Seattle and members of the Council consider these

conditions to be a victory for public-interest. However, from another public-interest perspective, very little benefit was obtained from these ‘concessions’”. The penalty consumers must pay if they choose an ISP other than AT&T is a formidable barrier to open and equal access.

SEATTLE’S COMMUNITY TECHNOLOGY PROGRAMS

Technology Access Foundation (TAF)

Realizing the importance of technology and the need to involve people of color in the technology revolution, Trish Millines, a Microsoft employee at the time, and Jill Hull, then a Seattle Mental Health employee, started the Technology Access Foundation (TAF) in 1996. The mission of TAF is to provide communities of color with equal access to technology. To fulfill this mission, TAF seeks to

- educate communities about the role of technology in their present and future;
- join families, schools, local businesses, and TAF in commitment to a common goal of access to technology for our children.
- build a consortium, with existing community organizations, focusing on education and technology;
- leverage existing resources through collaboration;
- become expert and successful enough to assist anyone who wants to form a community organization that focuses on technology for communities of color.

TAF runs two programs and there is a third in the planning stage. All of TAF’s programs focus on school-age children. The first is the Virtual Institute. Rather than open new centers, TAF works with Connecting Communities of Color (C³), a consortium of CBOs interested in narrowing the digital divide, to help them incorporate technology into their programs.

TAF offers classes to students at C³ member facilities. Because these courses are offered in more than one location and these locations are not strictly providers of computing facilities, TAF calls the project the Virtual Institute. TAF provides the curriculum, the instructors, and, in most cases, the equipment and maintenance on the equipment. The Virtual Institute allows students to receive everything from basic-level computer literacy training to training in specific technical fields such as networking, Web design and HTML.

TAF plans to expand the Virtual Institute program within the City of Seattle to meet its goal of helping 2,000 young adults complete a core group of computer literacy courses each year. TAF is also planning to expand the Virtual Institute beyond the city limits by partnering with community organizations in other cities and towns, including Renton, Tacoma, Yakima, and Spokane. TAF plans to continue its expansion throughout

the state and hopes to have a nationwide presence with the Virtual Institute within the next three years.

The second TAF initiative is the Technical Teens Internship Program (TTIP), an after-school program for teenagers 13 to 18 years old who are interested in a career in computer engineering. Technical Teens is a four-year program that trains teenagers to be network engineers, programmers, Web developers, or media production professionals. Students take courses twice a week throughout the school year. During the summer, they participate in paid internships at area corporations. Students earn a minimum of \$9 an hour, with participants averaging \$11 an hour for jobs involving Web development, network installation and maintenance, and media production graphics. At the end of each summer, participants receive \$1,000 to help pay for higher education.

TAF launched TTIP in the fall of 1997. The TTIP is a competitive program. Each year, up to 40 new students can join the program. Last year, TAF accepted 38 out of 107 applicants. In 1999, the applicant pool increased to 150. TAF requires each student to achieve a 90 percent class attendance rate. Students must also maintain their grades.

Cofounder and executive director Trish Millines (1999) says:

It's a great program. It not only benefits kids, it benefits corporations. We're trying to get them to see that in order to solve the problem with the technology talent drought you've got to start earlier than college; you really need to work with high-school students. One could argue that you need technical education for younger kids. Really get them to understand that if you get a 14 or 15 year old and have them in every summer through high school, help pay for their college, have them every summer through college, you get them out and they're already halfway up the ladder by the time they become a full-time employee. . . . It's investing. The companies are also helping them to help their families. We have siblings coming in to this program now because they're seeing what their older siblings are doing; we have some kids making more money than their parents. So its really a benefit all the way around. Society as a whole obviously is going to benefit because you have one less kid that's potentially on public assistance. You know they're going to have a job, they're off the street 'cause they're here two days a week and doing their homework the other days because they have to maintain their grades while they're in this program. So everyone wins.

TTIP teaches teenagers more than technology skills; it prepares them for the workforce. Prior to starting an internship, students participate in a comprehensive month of job-readiness training. As Millines (1999) explains:

We do everything from the cover letter and the resume to how to do the interview. Once you get the job, how do you behave? How do you act as the only teenager on the job? Typically most of them are. How do you act as the only person of color on the job? Typically they are. How do you show the company that you're going to be a value to them? What do you do when you run out of work? Do you pick up the phone and call your friend? I don't think so. Do you go email? No, you go ask for something to do, you be proactive. . . . We talk about what to do with your money

once you get your paycheck. We go over the whole thing about what gets taken out. We talk about their rights as minors in this country, so that if they're 15 years old they're not asked to work overtime, and we talk about investment, we talk about the impact on the community. It's a pretty intense thing.

TAF also trains the employers. Employers participate in a three-hour training session on how to work with young adults. Students and employers participate in diversity training.

TAF is currently working on the design and implementation of a third program, TechStart. Geared toward children 5 through 12 years old, the goal of TechStart is to provide quality early education to children of color and low-income children by using the computer as a tool to encourage them to develop the problem-solving and critical-thinking skills necessary to excel in school. TAF hopes to use the TechStart program to identify candidates for the TTIP.

Project Compute

Project Compute is a nonprofit, community-based computer-training program sponsored by the Rainier Community Center Advisory Council. The program began in 1991 when two volunteers working a late-night program at the Rainier Beach Community Center brought in their computer and conducted stand-around sessions in the hallway. They eventually acquired surplus machines from the Boeing Corporation and space for the computers in the community center. Since those modest beginnings, Project Compute has expanded tremendously, operating five to six days a week, year-round, and offering free classes that support a quarterly enrollment of more than 100 students.

Project Compute focuses primarily on school-age children. It offers an after-school tutoring program, classes in computer basics and programming, and technology-based math and science courses. Program volunteers reach out to the broader Rainier community by offering adult and senior classes and open-lab time for all community members. Project Compute also sponsors personal computer repair and troubleshooting demonstrations and runs a family computing night that features contests and group projects centered on community building.

Project Compute volunteers have taken great strides to incorporate computers and information technology into their learning programs rather than simply training program participants on the technology. As Anthony Williams (1999), long-time volunteer and sponsor of Project Compute, stresses, "We don't want people to believe that a computer is a computer. We really want people to believe that a computer is a tool. . . . People need to understand, and particularly young people, how [technology] integrates into their lives."

The integration of technology into learning and community development activities is exemplified by the Project Compute Life-Web Journalist Project, the first phase of which was completed in March 1999. As part of the initiative, Project Compute loaned 25 handheld computers equipped with Windows, an audio recorder, and a digital camera to participants for a six-month period. Participants were to go out into the community, capture stories of interest, and create an Internet Website. The 25 participants included 19 youths, 3 adults and 3 senior citizens.

In addition to helping participants hone their journalism and computer skills, the Life-Web Project provides participants with the opportunity to tell their stories and to create instead of simply consume information. When asked why they wanted to participate in the project, one young woman replied that she wanted to be heard.

With the exception of tutors and a quarter-time administrative staff person, Project Compute relies on a committed staff of 25 to 30 volunteers. Williams (1999) asserts that the program's reliance on volunteers attributes to its success and longevity and sets Project Compute apart from other technology programs in the city:

Some of the other programs have lots more staff, paid staff. A lot of the other programs rely less on volunteers. I believe that the ideal or optimum situation is to have a combination of both. What the paid staff bring is some stability and continuity to the program. But what the volunteers bring that the staff doesn't, and I truly believe this, is the passion. And I'm not saying that paid staff don't have the passion, but there's something different when people decide to come and give their own time.

Archdiocesan Housing Authority Computer Learning Centers

The Archdiocesan Housing Authority (AHA) is the largest provider of permanent low-income and emergency housing in the Puget Sound region. In addition to providing affordable housing, AHA is committed to helping residents achieve self-sufficiency so that they can lead fulfilling lives. To help meet these goals, AHA is in the process of developing Computer Learning Centers (CLCs) in seven of their low-income housing sites throughout King County. "The mission of the Computer Learning Centers is to ensure that all individuals, families and communities have an opportunity to participate and thrive in the new information age—regardless of economic, physical or cultural differences. Computer Learning Centers will help us meet this goal by providing free educational and economic opportunities to low-income families, senior citizens, and to the developmentally challenged" (Archdiocesan Housing Authority 1999).

Three CLCs have been up and running for the past year: the Josephinum, Chancery Place, and the Andy Polich Center at Renton Family Housing. The Josephinum and Chancery Place CLCs are located in housing communities in Seattle. The Andy Polich Center is located in downtown Renton. Four more centers are scheduled to open this year.

Through the Neighborhood Networks program, the AHA has been able to use reserve repair funds for the computer learning centers. AHA also has relied on funding from the Boeing Corporation and area foundations. The AHA received \$30,000 from the Technology Matching Fund and \$9,686 from the Department of Neighborhood's Neighborhood Matching Fund for the establishment of the Josephinum computer learning center.

Like Project Compute, the AHA learning centers rely heavily on volunteers. In fact, the Josephinum was able to more than match in volunteer time the city's contribution to the CLC. In addition to volunteers from Americorps VISTA, AHA solicits help from area companies and the community through monthly newsletters at the

different housing programs. AHA also posts announcements through VolunteerMatch, an on-line database of volunteer opportunities. According to Greg McDonald (1999), program manager of AHA's Computer Learning Centers:

We've actually been very successful [in getting volunteers] so far. We started developing a volunteer program almost a year ago. . . . So in this past year we've probably gotten 20 really solid volunteers for three different sites. A lot of them have been coming from Microsoft, Boeing, some of the larger corporations that are closer in proximity to the centers or people who live nearby. . . . In the past week, we've gotten four people that have been interested through [VolunteerMatch]. So it comes in spurts. But it's been really exciting to get those phone calls. I think word is getting out. People are hearing from their friends that this is a good place to spend their time.

Each of the AHA Housing Programs serves a unique housing community. The Josephinum apartment building is home to working-class individuals and families; Chancery Place is made up of elderly and disabled residents; and the Renton Family Housing program provides affordable housing to low-income families with children. Given the diversity of AHA's housing communities, each of the learning centers offers open-lab time and a variety of classes, seminars and workshops tailored to meet the specific needs of residents. In efforts to identify these needs the AHA has held focus groups to learn what residents would like to see come out of the CLCs. At the Josephinum, there has been an emphasis on developing job skills and preparing for GED exams. The Chancery Place center has an intergenerational program where area high school students teach seniors Internet and email basics. Residents at Chancery Place have also expressed interest in developing a video telemedicine program. The Andy Polich learning center offers tutoring for the many resident children and basic computer classes that address job skill development and resume building for adults. The center is planning to join forces with TAF's Virtual Institute in the near future.

Although AHA is committed to serving the needs of the resident population, developing solid community-based programs and curricula has been difficult. As McDonald (1999) notes:

We've had some really great [volunteers] who've been able to reach out into the community, kind of talk to people and . . . see what they want to learn about computers. But. . . if they don't know what's possible, if they don't know what computers can teach them, sometimes its kind of hard in the beginning stages to get a good program going right off the bat unless you want to say "hey, this is what I think is best for this population." So we're still kind of trying to get a good core curriculum. . . . And so I think that's going to be something that we are really going to work on this year. It is definitely a question of what these folks want to learn versus what we think is best for them to learn right now.

AHA plans to create a "CLC Technical Tools Library" that will include the curricula, information on lessons learned, and CLC development and evaluation tools.

This collection would be made available to other communities interested in establishing a community technology center.

PARTNERSHIPS

The Role of a Community Technology Planner

As in Austin and Pittsburgh, partnerships pervade many of Seattle's community technology initiatives. Collaboration is due to funders' emphasis on collaboration and partly to the combination of resources needed to establish and maintain community technology projects. Seattle, however, has had the benefit of a community technology planner to encourage and foster collaborative relationships among the city's community technology actors. According to Keyes (1999b), "the advantage of having a community technology planner is having somebody who can step back and have all of those feelers out in the different areas of the community and see what's out there and how we can bridge those things." This position has proven invaluable to many CTCs. As McDonald (1999) notes:

[Dave] is really out in the community getting to know the programs, looking for funding resources, looking for innovative ways to make these centers work. And back in January he held a meeting for all the umbrella organizations who are doing multiple centers. [It] was the first time that anybody came together. . .to talk about what their needs are. It was really helpful, just having that link. Having there be a place where people can come together to talk about what kind of training they would need, what kind of resources they need right now is really key.

Out of that initial meeting, AHA was able to establish a partnership with TAF. As noted above TAF will expanding its Virtual Institute program to include AHA's Andy Polich center in Renton. To further build a community technology alliance, Keyes is looking to broaden the dialogue to include individual centers as well.

Washington State Neighborhood Networks Consortium

The Washington State Neighborhood Networks Consortium (NNC) is an alliance of private- and public-sector groups that seeks to establish, maintain, and support CTCs in affordable housing developments throughout the state. NNC was established in 1997 as a consortium of Neighborhood Network centers.

In June 1998, then VISTA volunteer Tobi DeVito came on board to establish NNC as a nonprofit 501(c)(3) corporation with a board of directors. Realizing that there were many other actors serving the technology needs of Washington's low-income residents, NNC members broadened the mission of the consortium to allow non-FHA-financed properties and other CTCs to participate. To date, NNC has helped establish and/or sustain more than 50 Computer Learning Centers in Washington State.

NNC's long-term goals are fourfold to help provide every NNC center with Internet access; to form CTC/small business alliances to help center residents enter the

workforce; to make all NNC centers accessible to the elderly and residents with disabilities; and to establish a software clearinghouse to complement the already existing hardware clearinghouse. NNC recently launched a citywide campaign, Connecting Seattle, that seeks to provide computers, connect five sites to the Internet, train residents to be trainers and provide Internet training, and community forums at each site.

NNC received a \$17,000 Technology Matching Grant for its Connecting Seattle initiative. In addition, individual and organization donations and foundation and government grants help NNC cover the costs of equipment, administration fees, and other operating costs.

The U.S. Department of Housing and Urban Development (HUD) endorses the formation of Neighborhood Networks consortia because they have the potential to increase the impact of the limited amount of time HUD staff can allocate to the Neighborhood Networks program and leverage intellectual and organizational capital of consortium members. HUD has used NNC as a model for other organizations interested in establishing a community technology consortium. In 1999, NNC received HUD Top 100 Best Practices recognition. HUD also invited DeVito to speak about NNC's experiences at the 1999 HUD Neighborhood Networks Conference in Kansas City.

Despite the recognition that the NNC has received, it has a long way to go reach its full potential and meet its goals. Using a VISTA volunteer as a full-time staff member may not be the ideal model for other regions to follow. DeVito acknowledges that the support of Seattle's community technology activists was instrumental in getting the consortium off the ground. Such support might not be as readily available in other places. DeVito further asserts that relying on VISTA volunteers is not a long-term staffing solution. Continual and frequent turnover undermines the stability, continuity, and momentum of the consortium and its activities. For instance, DeVito notes that she had worked at NNC for nearly half of her assignment before any substantive progress in the establishment and operation of the consortium was made.

NNC also has had difficulties involving center staff in the consortium. Seattle's centers, like CTCs throughout the country, are often understaffed, leaving little time or energy for the center staff to devote to the consortium. To rectify this situation, NNC is trying to strengthen membership and to expand community involvement in the consortium.

WHAT IS UNIQUE ABOUT THIS CASE?

Seattle is notable for the level and diversity of activity in the community technology arena as well as the leadership role taken by local government in narrowing the digital divide. Given the presence of high-technology firms, the level of community technology activity in the Seattle metropolitan region would seem to come as little surprise. Yet, community technology activists are careful not to overstate the role of the industry in fueling the region's community technology activities. When asked about the role of industry presence in the development of community technology initiatives in Seattle, Keyes (1999a) replied:

One of the problems that I see, particularly from some of these technology companies, is that first they'll drop a single grant for a project or donate some software but that's not what's going to help the centers survive in the long run and really make them work. There's still a pretty big disconnect and a lot more room for investment from the companies. . . . I've seen some interest from professional associations and employee groups volunteering and donating time and stuff. It seems more ripe on the individual employee level to get support for the community technology centers than it is company-wide. . . . There are some companies that have sort of adopted schools. I don't know of any that have adopted community technology centers over the long haul. I sort of feel like that's the way to go—see if we can develop some longer-term relationships, partnerships. It's a tougher sell because people want to do a project and get out, you know and move onto the next project. It's a challenge but that's one of the places I think we need to go.

Many community technology activists attribute the level of community technology activity to Seattle's strong neighborhood-based approach to planning and service delivery and to commitment on the part of community technology actors and community leaders. Yet, it is hard to separate the city's economic base from neighborhood development. As Namioka (1999b) notes, "Boeing has been an integral part of the history of Seattle for so long that you can't disassociate Seattle neighborhoods from Boeing's presence. . . . they go sort of hand in hand." In addition, the surge in computer development firms is transforming the urban landscape.

Certainly Boeing, Microsoft, and numerous other technology-related firms have provided a vast pool of skilled volunteers. Many community technology activists are themselves connected to Boeing or one of the region's computer development firms. Namioka (1999b) suggests that "It's employees of the company that are helpful. We have a lot of Boeing people working on the Seattle Community Network project. We have had a lot of Microsoft people donate money. It's not the companies, it's the people that work in those jobs that help." Anthony Williams (1999) of Project Compute echoes this sentiment: "There are a lot of people of color that understand what the implications of technology are, and I think if you look across you'll see a lot of people of color volunteering a lot of time to this, and mostly people who work in the industry or who have connections to the industry in some way."

The industry presence also has raised the level of public awareness around information technology issues and encouraged local government to play an active role in narrowing the gap between the "haves" and the "have nots." By creating CTTAB and the Citizen Literacy and Access Fund and employing a community technology planner, the City of Seattle is leading the way in local government responses to the digital divide.

CHALLENGES

Technology Impact Indicators

As noted above, Seattle's Citizens Literacy and Access Fund was established with the goal of improving access to information technology in underserved communities and improving technology literacy among the city's residents. Yet, CTTAB board members and other community technology advocates have long grappled with how to define access

and technology literacy and how to measure the impact of Seattle's community technology programs. Keyes (1999b) touches upon the complexity of this issue:

We're still working on how we implement [a set of technology impact indicators]. Can we come up with some working definition of what technology literacy is or a set of moving standards? . . . What's the basic set of survival skills that a citizen needs—the reading, writing, and arithmetic for technology? And then there's the next level of what people need—and that might include things like the ability to communicate with your neighbors or participate in your neighborhood organization or do life-long learning or access the library or those kinds of things. Then there's the second level of technology for a specific application—for a job or for basic office skills. And then there's kind of the community development component--getting technology jobs in the community. Is it part of what's needed for community development? There's a skill level and literacy level with that. . . . How do we measure both that literacy level and how do we look at [whether] the infrastructure [is] there to support it and support what communities need for technology as part of their community development?

CTTAB is currently working to develop a definition of basic technology literacy and a set of technology impact indicators to measure the impact of information technology on the health and vitality of the Seattle region over time.

Planning around Technology

Seattle is a city of neighborhoods. As such, the City tends to take a decentralized, neighborhood-based approach to planning and service delivery. Community technology advocates believe that technology needs to be incorporated into neighborhood plans. It has been difficult, however, for neighborhoods to do strategic planning around technology. As Keyes (1999b) explains:

We haven't been able to successfully facilitate and motivate groups to [come up with a technology plan for their neighborhood]. . . . It would be neat, it would be real powerful to see what that would look like. It's a concept that people just don't have. It's not on the map yet. So part of it is doing that work to get it there. In [one particular neighborhood] . . . there's a core group of folks that started and got motivated. They want to put in a computer center but they're not seeing that whole neighborhood strategy because its a hard one to grasp. There's not a good template out there.

For the most part, technology planning remains relegated to the executive services department. Although efforts by CTTAB have certainly sought to elicit citizen regarding technology issues, more education is needed to help neighborhood organizations and local government make a direct connection between technology and service delivery.

Formalizing Partnerships and Collaboration

Community technology advocates are trying to formalize the network of partnerships and collaboration in the city through the creation of a community technology alliance. A number of actors and institutions recently joined forces to submit a grant proposal to the Department of Education CTC program for the formation of a community technology support structure. As Keyes (1999b) notes, “The Department of Education grant was really a nice opportunity to pull some players together and say, ‘I know you’re doing this really well, and so what can we start to do together to build a larger support system?’” The Seattle Public Library submitted the grant and will take on a coordination role. The partners include a number of organizations and agencies: Seattle’s community colleges, the Seattle Community Network, area CTCs, and nonprofits that provide services to CTCs. The alliance also has received commitments of in-kind services from corporate-sector actors, including SYSCO and TCI (now ATT Broadband).

The purpose of the alliance is to create more formal linkages between community technology actors and initiatives in an effort to share best practices and create the opportunity for learning exchanges. The grant proposal states alliance’s to be the goal enhancement of capacity in each of six identified CTCs. All of the sites selected currently operate a technology program but need assistance in making their centers sustainable. Centers were also chosen based on the level of community interest and support; all of the CTCs must be invested in and they must be committed to the process. All of the centers are located in low-income neighborhoods and serve low-income populations. Although all of the six initial CTCs are located within the City of Seattle, partners in the alliance have a long-range goal of extending the alliance to serve the greater Seattle region.

The partners in the community technology alliance take a multifaceted approach to capacity building that focuses on hardware and software capacity; technical support; staff training; and curriculum development. Each of the partners will bring some expertise to the alliance. For instance, the library offers Internet training and can act as a depository of community technology information including handbooks and curriculum.

While the alliance focuses on providing a “package” of support to CTCs, those within the alliance realize that there is not a single, cookie-cutter approach to building capacity in CTCs. According to Jim Liddell (1999) of Connect, “Each neighborhood and each community’s got it’s own dynamics and, interestingly enough, a different mix of players. And that always influences what number you’re going to put on the jukebox to start the dance.”