

**U.S. DEPARTMENT OF COMMERCE
National Telecommunications & Information Administration**

Evaluation of the
Telecommunications and Information Infrastructure Assistance Program

Case Study Report

**East Austin Community Network
96049**

Austin, Texas

Site Visitor: Laurie Somers

Dates of Visit: April 26-27, 1999

PREFACE

The following case study report is being issued as part of TIIAP's ongoing evaluation initiatives designed to learn about the effects of TIIAP funded projects. This report is one in a series of twelve based on in-depth case studies conducted in 1999 to study three subjects: (1) issues particular to rural communities (2) issues particular to urban communities, and (3) challenges in sustaining information technology-based projects. The case study reports give us evidence about the special challenges that each project faced and provide information for a better understanding of factors that can facilitate the success of such projects.

In addition to being urban or rural, the case study projects were selected because they involved distressed communities, represented innovative models for services, and affected measurable community outcomes. The case studies, conducted under contract by Westat, an independent research firm, consisted of extensive review of project files and records, interviews with project staff, representatives of partner organizations, and project end users. In addition to the 12 individual reports, a summary of findings across the projects is also available on the NTIA website.

NTIA wishes to thank the case study participants for their time and their willingness to share not only successes but also difficulties. Most of all, we applaud your pioneering efforts to bring the benefits of advanced telecommunications and information technologies to communities in need. We are excited about the case studies and the lessons they contain. We believe that these projects provide a unique insight into the variety of ways to eliminate "the digital divide" which exists in our nation. It is through the dissemination of these lessons that we can extend the dividends of TIIAP funded projects nationwide.

We hope you find this case study report valuable. You may obtain other case study reports, a summary of findings of the collected case studies, and other TIIAP publications through the NTIA website (www.ntia.doc.gov) or by calling the TIIAP office at (202) 482-2048. We also are interested in your feedback. If you have comments on this, or other reports, or suggestions on how TIIAP can better provide information on the results and lesson of its grants, please contact Francine E. Jefferson, Ph.D., at (202) 482-2048 or by email at fjefferson@ntia.doc.gov.

Stephen J. Downs, Director
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Project Name	East Austin Community Network
City/State	Austin, Texas
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OEAM Number	96049
Application Area	Community Networking
TIIAP Grant Amount	\$246,679
Match Amount	\$613,161
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Site Visitor	Laurie Somers
Abstract	<p>Austin Free-Net (AFN) in Austin, TX, a 1996 TIIAP grantee, built a community technology network on top of a low-income community's social networks. AFN staff and partners hoped to help prepare people for better jobs and academic improvement, while at the same time saving them time in completing daily tasks. The East Austin Community Network (EACN) is a network of 41 computer stations at 11 locations throughout the neighborhood, all connected by continuous high-speed ISDN to the Internet. Significantly, EACN was built from within the community on top of the existing community social networks. AFN also developed a community website to be a hub for community communications and interaction, with spaces for community organizations, churches, schools, and other local interest items. Most pages are available in Spanish.</p> <p>Perhaps EACN's greatest accomplishment is in community members' growth in self-confidence from mastering a new challenge. And not only do community members feel good about what they can do, but they have gained what evaluators are calling "community competence." That is, the community has gained knowledge and skills that enable it to do more with what it has. While the project experienced some strained relations among the main partner organizations (AFN, the Austin Learning Academy, and the Lyndon B. Johnson (LBJ) School at the University of Texas) largely due to shared goals but different strategies, and while these issues were never fully understood, nor were they resolved, the project is seen as a success among users and staff alike.</p> <p>One prominent lesson learned, and likely the reason for the project's success, is that staff worked hard to build trust among community members and access site staff. Early on, they saw the importance of listening to and knowing their customers and the buy-in that generated, and the importance of meeting the needs of the community, as determined by</p>

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A. Background

Community Characteristics

Interstate Highway 35 literally separates East Austin from the rest of the city. In recent years, Austin has seen a great upsurge in its technology focus, both in and out of the business community. The city is rapidly becoming one of the major high-tech centers in the country, with several major hardware and software companies located there. Home computer ownership citywide was over 50 percent in 1996. These companies and computer owners are located west of I-35 while in the East Austin neighborhoods surrounding East 11th and 12th Streets, in 1996 less than 5 percent of homes had home computers.

East Austin is a community of low-income people who are, project staff indicated, about half Hispanic and half black. Half of the children under age 18 live below the poverty line. The area's unemployment rate in 1996 was 18 percent, compared to 6 percent citywide; the teen birth rate was 15 percent; and students in the neighborhood schools pass state achievement tests at less than one-third of the rate of Anglo students in Austin.

Project Overview

Problems/Disparities the Project Was Designed to Address. The East Austin Community Network (EACN) was designed to bring the Austin Free-Net (AFN) to East Austin, with the intent of leveling the playing field in computer and Internet access and skills with other neighborhoods in Austin.

In addition to designing a project that would address economic and educational indicators, AFN focused on time, an indicator seldom considered, but frequently a problem in distressed communities. According to AFN's TIIAP grant application,

Poor people spend more time than others tending to their most basic economic, education, and health needs. Even then, a lopsided share of their time is lost traveling to get help or waiting to be served. The poor must wait because either they have no information; they have inaccurate information; or they wait to get information which is readily available to others. For example, they wait for buses because bus schedules are not conveniently available; they wait at service agencies because of the difficulty making or confirming appointments. They wait too long to help their children with school work because they must wait to talk with their children's teachers. Poor people and poor communities are victimized because no one values their time. If they could recapture the time lost waiting, there would be more time to actually do the work needed to strengthen their families and communities.

Much of the important information community members are missing is available online. By providing access and training for community members, AFN intended to create a time-saving tool for building a self-reliant neighborhood.

Technical Approach. EACN was designed to be a computer network mapping on top of a human network. The overall AFN Public Access Network, of which EACN is a part, was planned to include the public institutions (such as libraries and schools), community-based organizations, and training centers in each local community that people already visit. While the technology at each school, library, and community organization differed, the training centers were to provide, at minimum, Apple PowerMacs, PC 486s, and Pentium class systems, connecting to an Ethernet and router with ISDN connection to an Internet service provider (ISP) and a minimum T-1 connection to the Internet.

The project initially planned to create two access centers at the DeWitty Job Training Center (8 computer stations) and Ebenezer Baptist Church (4 computer stations). By the end of the grant period, AFN had established a network of 41 computer stations at 11 locations throughout the neighborhood. All computers are connected by continuous high-speed ISDN to the Internet and offer browser services and HTML editors, word processing software, and CD-ROM drives.

AFN also developed a community website to be a hub for community communications and interaction, with spaces for community organizations, churches, schools, and other local interest items. Most pages are available in Spanish. The project also intended that staff from community organizations would explore the Internet beyond EACN's web pages.

The project intended to use volunteers from the community in a train-the-trainer approach that would facilitate neighbors teaching neighbors to use the new technologies, thereby building trust in the systems from within the community and building capacity for reaching and teaching more community members. However, volunteers did not materialize as expected.

Anticipated Outcomes. Although the initial unspoken outcome was that people would use the computers, AFN staff and partners hoped to help prepare people for better jobs and academic improvement, while at the same time saving them time in completing daily tasks. Project staff stated they did not really know, or try to know, what problems people would solve with the technology and felt it would be arrogant to assume what others would gain from the system. The project partners provided the technology and training infrastructure and encouraged people to do with it what they wished. At minimum, they wanted community members to find something for themselves without help. With a population that is frequently insulted with "you should, you need, you must" from outsiders, AFN wanted to let them learn to do something by themselves. The partners allowed for both classes and self-teaching opportunities that helped improve the self-image of the public access customers.

Project Status at the Time of the Site Visit

EACN is in operation much as it was at the end of the grant period in August 1998. Project staff indicated that the access locations are still active to varying degrees, although most public access is provided through the EACN Lab at the DeWitty Center. Several public classes taught by staff and volunteers are offered at the EACN Lab. The East Austin Media Lab is used during the day by the Texas Empowerment Academy students, staff, and their families, and two

afternoons a week, there is a volunteer-taught after-school tutorial program open to neighborhood youth. The Austin Learning Academy labs are used by the families of its program participants, and one lab is shared with area organizations when possible.

B. Community Involvement

Characteristics of the Grant Recipient Organization

AFN began in late 1994 as an idea for using the Internet to serve citizens. A key concept that the City's team investigating uses of the Internet was faced with was universal access. The team acknowledged in its final report in March 1995 that "as the City begins utilizing the Internet and other electronic means of service delivery, it is incumbent upon [them] to serve all citizens." They asked about individuals and small business that do not have computers and whether the City was providing convenient service to only some of its customers. They identified four components of universal access: equipment in community spaces, Internet access for citizens, community networking, and community training and support. AFN was incorporated as a separate, nonprofit organization in April 1995 with these ideas in mind.

AFN was launched by a city technology project manager. As a nonprofit organization begun by the City, AFN was in a unique, and sometimes confusing, position of an organization trying to work within a community that has not always been equitably served by the funder of the organization. Over the last year, leadership of AFN has moved further away from the City government although it still resides under, and works in partnership with, the City's Internet Services Office.

AFN provides access to the Internet through libraries, schools, and community centers across the city. It provides Internet-connected computers and training in public spaces. At the time of the site visit, AFN was present in 42 locations, including all 22 public libraries. AFN operates on-going projects in several neighborhoods, library projects, and a multimedia lab.

Partnerships

EACN worked with a number of partners on different levels. Two worked directly with the administration and implementation of grant activities; 9 sites provided community access locations; and 13 corporate partners assisted directly or indirectly.

Implementation Partners. The Austin Learning Academy (ALA) created and operates Family Learning Centers, which provide parenting classes, GED and ESL classes, Texas' first non-school-based Even Start program, job training, family support services, and various after-school activities. ALA was created by former Austin Independent School District teachers and is based on a model used with gifted and talented groups where students learn by teaching others through project-based activities. ALA was responsible for supervising EACN training activities.

The Lyndon B. Johnson School of Public Affairs at the University of Texas at Austin is a graduate program in public policy and administration. The LBJ School was primarily responsible for evaluation activities for the TIIAP grant. However, representatives also provided much of the community and social theories behind the Austin Access Model, the guiding principles behind the EACN project.

Community Access Center Site Partners. AFN established public access sites at 11 locations:

- East Austin Community Network Lab
- Austin Learning Academy
- Mount Carmel Apartments
- New Lincoln Missionary Baptist Church
- Conley-Guerrero Senior Activity Center (City of Austin Parks and Recreation Department)
- DeWitty Job Training and Employment Center (City of Austin Human Resources Department)
- Texas Empowerment Academy (charter school)
- East Austin Media Lab at Our Lady's Family Center
- Businesses Invest in Growth (B-I-G) (small business incubator)
- East Side Story
- East 11th Street Austin Police Department Neighborhood Center (community policing, no longer part of EACN)

Each site received different combinations of equipment through the TIIAP grant. Most sites already had computers available and only received Internet access and software, necessary cabling, technical support, and equipment for the access. The EACN Lab, the ALA, and the Conley-Guerrero Senior Activity Center received a full complement of computers, printers, and other hardware, in addition to access and any necessary software. Several sites' equipment was upgraded under the grant.

AFN established informal criteria for selecting access sites. They were seeking locations that already had high traffic, where visibility of AFN and the access center computers would be high. The notion of laying a computer network on top of a human network required locating the computers where people already go and using technology with which they are already familiar.

Corporate Sponsors. AFN support is provided by Excite, Inc., Susan Price and Associates, Outernet Connections (ISP), VersaCom, Inc., Austin CableVision, Capital Metro, Illuminati Online, OnRamp Access, Sematech, Literacy Austin, MAIN, CSA Computer Resources, and Hurricane Office Supply. EACN's technical staff worked directly with Tinkertronics, an East Austin computer equipment and repair company. Staff developed a close relationship with Tinkertronics because of its location in the community.

Community Outreach

Involving Community Stakeholders. AFN, ALA, and the LBJ School conducted some very informal needs assessments prior to the grant, both as part of their daily work and in thinking about the TIIAP project. The needs assessments consisted primarily of talking with neighborhood residents they met on the street and staff of community organizations. Staff asked primarily what residents thought of technology, whether they use computers, and where they have access. With concerns of asking community members if they would use something they knew little about, staff asked to a lesser extent what they might use computers to do and where they would be willing to go to do that.

The LBJ School was most interested in tracking where people in the community go, what they do there, and with whom they do it. This mapping is based on keen observations of the community. LBJ faculty and students also conducted a preliminary survey to determine how many community members own and use computers. Survey findings did not seem accurate, and it was

determined that sampling problems and several misinterpreted questions led to skewed and unreliable results. For example, a question of whether residents had access to a computer yielded a rate of 30 percent; evaluators felt the respondents may have included home computers (the intention of the question) as well as access through AFN library sites.

Project staff were very concerned about breeding distrust in a community that has been studied over and over. They have learned that residents tend to think that institutions purporting to help them only create more hoops, or they are provided with assistance for only a short time. This was evidenced by the fact that many users have asked how long the computers would be in the community before they were taken away.

Gaining buy-in from partner sites proved to be a challenge. The partners were already doing good work in the community, so AFN was hesitant to come in and say they had a better solution for helping people. Project staff instead focused on convincing sites that they could learn to use technology to leverage what they were already doing. Sites responded well to this and were very excited about the prospects of technology integration. However, the challenge in helping sites understand *why* the technology was good remained. Project staff saw that sites were likely concerned about the technology and the amount of work and responsibilities the technology brought but were wary of treating them as scared of the technology to avoid insulting and alienating them.

AFN developed a location agreement form intended as a sign of commitment to the project. The form stipulated that the site would provide staff support and collect appropriate usage data. Few sites were willing to sign, and project staff were hesitant to push it, again fearing they would alienate their potential users. Project staff attribute their inability to get agreements signed in part to timing; they were asking sites to commit to something before the grant was finalized and before sites understood what they were getting. This created problems later on, when there were no formal agreements between AFN and the sites as to responsibilities, particularly for outreach and data collection.

AFN held sporadic meetings with all sites. They had trouble scheduling them due to many conflicting schedules and, likely, the project not being high on sites' agendas. In hindsight, these meetings were more necessary than they realized. Unfortunately, at that point, it became even more difficult to pull the group together.

Project Outreach. Project staff took a number of steps to inform users of the available technology and, more importantly, create an awareness in the community of what technology can offer. AFN conducted some demonstrations in public housing locations, showing how users can find information on the Internet. These demonstrations were well-received and created much enthusiasm among residents. However, the public housing demonstrations were provided to a largely captive audience. Working through community agencies proved more difficult.

It was the original intent of project staff that each site would promote the project and conduct its own outreach. As the project developed, staff learned that many of the sites did not have any mechanism in place to do their own outreach, nor the capacity or time to create one. Part of the problem was that AFN was asking site staff to stake their reputations on something they did not really understand or embrace as central to their missions.

The sites that were able to promote the access themselves did so by adding a technology component to their existing programs. For example, the DeWitty Training Center added Internet research and word processing skills to existing job training courses. ALA placed AFN-linked computers next to computer game machines that kids were using frequently to attract them to the computers.

When AFN realized that many sites were not able to promote the project effectively, they launched a broad media campaign on sites' behalf. They ran advertisements and articles in community newspapers and public service announcements on local radio stations. This resulted in an overwhelmingly positive response, so much so that demand far outpaced what the access centers were prepared for and could meet. Many users were coming from other parts of the city to what was intended to be a neighborhood project. Subsequent publicity consisted of placing flyers in the community, at libraries, and at local organizations.

As it turned out, word of mouth was the best way to generate interest. While it took more time than anticipated, project staff felt that sharing among community members was an effective way to promote the project and generate interest. Slowly, people would bring friends and family to the centers. This slow growth allowed trust to build upon itself. Word of mouth and informal promotion allowed potential users to see that those promoting the project were people they already knew in the community.

Training. Training for the project was designed and coordinated by the ALA. All ALA classes offered are stand-alone classes; that is, while some can work in a series and some assume some prior knowledge, none are offered as a series where students must register and attend weekly. Absenteeism is a big problem for training classes offered as a series. They have found that many community members' life situations dictate their schedules more than a computer class does. When some of the students have missed classes that build upon previous classes, it becomes very disruptive. However, trainers are careful to make sure that students get something out of each 2-hour class and learn to do something themselves.

Staff originally intended to train local volunteers to staff some of the access centers and to provide user training, tutoring, and childcare. Each site was supposed to solicit its own volunteers, but few had the capacity to do so. Moreover, the reality of many community residents dictated that they do not have the time to volunteer.

The project did have a number of volunteers from outside the community. One respondent commented that even when they are from other parts of town, it is volunteers and volunteering that makes a community. Volunteers assist with training, tutoring, and childcare, in addition to clerical and administrative tasks. ALA staff created two curriculum packages for EACN volunteer trainers to assist them in teaching classes in basic Internet skills and web page authoring.

Protecting Privacy. Project staff believe that users' biggest concern about privacy was signing in to use the labs and having their names on a public list. Beyond that, they found that people generally minded their own business. One user commented that privacy is the trade off for free access and something that she was willing to forego.

Project staff frequently reminded customers that anything on the Internet is public and that nothing is truly private. Users had web-based e-mail accounts that were password protected, and the network system deletes all temporary Netscape files upon reboot (for maintenance purposes).

Establishment of appropriate use policies depended on the sites; those where children were using the equipment generally had them in place. Children and teenagers rarely used the Internet unsupervised and were instructed not to use Internet chat or look at anything they would not look at with their mother sitting next to them. One staff member noted that policies were applied somewhat differently depending on the user. For example, monitoring of use was different

for a 17-year-old living at her parents' home than for a 17-year-old GED student coming in with her own child.

C. Evaluation and Dissemination
Evaluation

Formal Evaluation. The evaluation of EACN worked on several different levels. The formal evaluation design for EACN, designed, conducted, and supported as an in-kind match by an LBJ School professor and graduate students, was based on a participatory action research model (PAR), which is intended to involve the subjects of a study in its design and implementation. The PAR design fit well into the EACN plan because it was designed around community development and EACN's objective of building trust among users.

The plan relied on surveys and focus groups. Surveys were conducted from three populations (participants in a family literacy program at ALA, regular users of public access sites, and community members) at three different points in time (before access sites were established, after the second cycle of education programs, and 6 months after active interventions). Students interviewed a total of 175 individuals.¹

Overall evaluation questions, as listed in the project application narrative, included:

- How many low-income citizens use the public library and the computers linked to the Internet as compared with the community sites?
- For those low-income people using personal computers, what are they using them for?
- How much do low-income citizens know about computers, the Internet, the World Wide Web, and online information resources?
- What sources of information do low-income citizens use now, and which ones would they like to use? If these sources of information were online, would that motivate them to acquire a computer and a network connection, or to use public computer connections?
- What are the barriers to using the desired sources of information? What would it take to overcome those barriers?

¹ Project staff did not have a count of the total number of participants, and were therefore unable to calculate the percent of participants interviewed.

Other topics of interest at the time of the grant application included a comparison of how long it might take users to obtain information in other ways and whether use of the Internet saved time.

The evaluators drew a number of research questions from cognitive science literature to ask how people and organizations turn data into useful information to solve a problem. What is the process by which people relate data to a problem and determine how to use it to solve the problem? They were also looking at the degree to which technology is integrated to the point of being invisible and how people can use it to do routine tasks. Evaluators' investigation of the influence of access and skills extended beyond the technology to questions about where people go, to whom they talk, what they talk about, what they read in the newspaper, and other changes in behavior.

Other Evaluation Activities. EACN conducted several other evaluation activities outside of the formal LBJ School evaluation. Many of the classes had pre- and post-class evaluation forms for participants. While these were not summarized formally, staff report that responses were generally positive about the instruction and about the existence of the network. They never had someone not learn something during the classes. Most survey respondents asked for more computers, more classes, and more hours of operation.

AFN provided an informal survey form for each of the access sites to administer to their customers. The survey asked customers how far they had to travel to the computer location, whether users had prior computer or Internet experience, what users were using the computers and Internet for, whether the Internet had saved users' time, and how the Internet had helped the user, among other things. AFN received 51 responses from five of the access centers.

Each access site was also expected to track network use through activity tracking forms and customer sign-in sheets. The activity tracking form collected weekly summaries of number of public access customers; number of classes; number of trainees; number of training, technical, and administrative volunteers and their hours; and the number of hours of operation.

The computer usage tracking system put in place after the grant period was an online sign-in form that pops up every 30 minutes. Users are to enter their name and home ZIP code. The three users interviewed acknowledged that this is small distraction but not a problem. This system is limited in that users can sign any name they want, and the system cannot count individuals. For example, if one computer is logged on at 9 a.m., 9:30 a.m., and 10 a.m., one

person could have been there the whole time or several people could have used it for shorter lengths of time. AFN sought better tracking software, but costs were prohibitive, especially since most systems require licensing (and fees) for each machine that uses the software.

Problems Encountered in Conducting the Evaluation. The first survey of network users conducted by LBJ students resulted in some skewed findings based on an unclear question. Thirty percent of respondents indicated that they had access to a computer, and evaluators were unsure whether the respondents meant they had computers at home or were referring to AFN public access computers at the library or in other community locations. This left the project without good baseline data.

AFN experienced great difficulty in getting users to sign in when using any of the EACN-sponsored computers, even with organization staff members and teachers, but staff regret that they did not start requiring it sooner in the grant period. They believe that East Austin residents simply did not like putting their names on lists and saw it as an invasion of privacy. The online log-in system has worked better in user compliance, but limitations in the system design make it difficult to track details of usage, such as time logged in and uses of the computer.

ALA's open enrollment drop-in classes made it difficult to track attendance and conduct pre- and post-tests. Pre- and post-tests would be more effective in determining what students are learning if there were consistent attendance. With users of various skill levels and inconsistent attendance, tracking overall and individual gains is more difficult.

Overall Evaluation Approach. The EACN project undertook a variety of evaluation efforts. However, they seemed to do so in an uncoordinated way. The LBJ School's surveys and the informal survey administered by each site asked some of the same questions but were not done in a way that allowed comparison. More important, the project staff seemed to see the project evaluations (formal and informal) as separate from participation and usage tracking.

The formal evaluation conducted for the project combined users who were provided access through TIIAP-supported computers and those who had access through other AFN-sponsored locations. While these portray the range of access options to East Austin community members, they do not adequately represent what AFN's TIIAP grant has added to the community. Moreover, one set of surveys was conducted at a library, and many of the qualifiers to respondent answers were provided by the librarian and apply only to the library access available.

While the project came at evaluation in several ways and had a number of interesting and worthwhile initial questions, in the end they were unable to answer many of them. It does not appear that data collection was designed to collect all the types of data needed to answer the research questions.

Dissemination

The establishment of EACN has led to the founding partners' participation in a variety of dissemination activities. The current AFN executive director has attended or has been invited to numerous conferences as a panelist or presenter. These events include the Texas Telecommunities Conference (12/98), Government and Technology Conference (2/99), National Forum for Black Public Administrators (3/99), Telecommunications Information Policy Institute (5/99), Texas Community Policing Conference (5/99), International Roundtable on Information Technology and Knowledge (co-sponsored by NTIA, 6/99), and several classes and colloquia at Huston-Tillotson College and the University of Texas. AFN staff and project partners have also brought booths to several conferences and fairs, including ChariTech, a nonprofit fair, the University of Texas Volunteers Fair, and South by Southwest, a multimedia fair.

Publications such as the *Austin-American Statesman* (11/98) and the *Austin Chronicle* (various) have regularly featured AFN and EACN events and available resources. AFN partners and projects have also been included in Stephen Bajjaly's recently published *Community Networking Handbook* and articles by Gary Chapman's "Digital Nation" (*Los Angeles Times*) and Steve Cisler (upcoming).

AFN has had several visitors from academic and community networking institutions including Rutgers University and the University of Colorado. Visitors from abroad include a Brazilian journalist working to establish a community network in São Paulo, an Internet trainer from Spain who volunteered during her summer stay (1998), and a Woodrow Wilson Fellow from Argentina interested in empowering the homeless through computer access.

The LBJ School and ALA have made regular presentations to the Texas Education Agency (TEA) on literacy and technology issues. In the weeks surrounding the site visit, they made a presentation to the Annenberg Foundation on the Internet and families and at the governor's Heritage and Literacy Festival. LBJ staff have also published in several journals, including *Family Futures*, *Discovery*, and *Technology Review*, since the end of the grant period.

The City of Austin has presented at a number of community networking conferences. Much of what they present is why city governments should be involved with community networking and why they should devote resources and participate in activities related to it. Their message is that city governments provide services to *all* citizens, and if there is no public technology access, then they are not doing their jobs. At a recent presentation to the Directors of Florida Libraries, the City discussed partnering with nonprofits and how it is beneficial to institutions for which technology is not its primary business. They also stress the importance of staff getting out of the institutions and into the communities where customers are.

The City has also undertaken the task of sharing the AFN project locally. AFN collaborates with several other projects now working in Austin to increase access to technology and training. The City has long encouraged and supported collaborative projects working to increase public access and training. In addition to its support for AFN, for example, the City's Telecommunity Partnership Initiative supports community-based efforts to provide computer training.

D. Problems Encountered

Problems with Partners/Stakeholders

There were a number of problems among the partners in the EACN project. While acknowledging that there were problems, respondents were hesitant to place blame on each other. However, all of the respondents commented that in order for partnerships to work, roles and responsibilities should be outlined up front and partners must be flexible as those roles change. Problems existed on two levels: among implementation partners (AFN, ALA, and LBJ School) and among access sites.

Implementation Partners. It seems that AFN and ALA began with goals and missions that may not have melded as well as they originally thought. One respondent described ALA's mission as focusing on empowerment and creating strong, healthy families. AFN's mission was described as more narrow in scope, concentrating more on providing an infrastructure, access, and training, but more broad in focus, serving *all* groups in the community and, indeed, the entire City of Austin. It seems that the two organizations did not reconcile this difference during the grant period, and instead, each assumed its own mission would guide the project. This created problems in the organizations' assumptions of how staff time would be allocated and how it would be phased out after the grant period ended.

Access Site Partners. AFN staff acknowledge that they never found a good way to get partners to work together. During the grant period, AFN served as a communication center, with each of the partners as spokes on a wheel; all communications regarding the project went through AFN. But most of the access partners had no ties to each other, prior to or after the grant. Evidently there are some factions in the community that create barriers to developing partnerships that stem from rivalries for competitive funding and marketing of programs. Project staff found it was difficult to break entrenched patterns when organizations have a history of not sharing (one respondent commented that many will not share even model by-laws with new organizations). However, a number of collaborations between access partners were discussed and others later established during the grant period and after.

Access site partners were also very reluctant to use e-mail for communication. AFN staff are still puzzled about why this was the case. They suspect part of the problem was that site staff are very busy, and e-mail was seen as just one more thing they needed to learn and do. And without really understanding how it might help them facilitate the network's efforts, they seemed to have no incentive to use it. AFN staff regret they may not have provided enough coaching in how to use and benefit from e-mail. It seems this lack of communication may also be another symptom of organizations' disinclination to share, understaffing, and EACN staff reluctance to impose rules.

Cross-Cultural Differences

Illiterate and non-English-speaking community members faced challenges both while training and learning about the availability of the technology. The scope of the problems with literacy in English or Spanish was an unforeseen issue. If users could not read what they now had access to, the access was pointless. AFN's director reports becoming a big advocate of adult literacy as a result of the project. She is concerned now that illiteracy is the reason that many people who do not now have computer and Internet access might not ever have them.

Project staff have identified a number of Spanish language websites, and AFN, the East Austin Media Lab, and the Austin Public Libraries teach several classes in Spanish. However, they worry that when a person types in a web or e-mail address or password, and does so inaccurately because he or she cannot spell, and then the site is inaccessible, the person will be turned off from the lab and computers and the Internet in general. As a result, trainers now build

in more time for bilingual classes for keyboarding and developing mouse skills, as well as make referrals to nearby literacy programs.

E. Sustainability and Project Expansion

Strategies Used to Fund Project Activities Beyond the TIIAP Grant Period

Several AFN staff members indicated that sustainability of AFN must be demand driven; the goal of sustainability is simply not for the sake of keeping AFN alive. And, in fact, AFN will have been successful because access will have been made available to all citizens. Thus, it is sustained access and use of that access that is critical. AFN is in the middle of a 2-year strategic planning project to determine how and where to expand and how to increase the depth of their presence in new and existing locations.

A major source of on-going funding for AFN and EACN is grants. To that end, the executive director and financial officer have been attending grant-writing seminars to learn how to find grant opportunities and be successful in obtaining the grants. The executive director also spends much of her time networking with telecommunications and infrastructure groups and attending their conferences. Several board members are also committed to working actively both locally and nationally to increase financial and other support.

AFN recently applied to become a Volunteers in Service to America (VISTA) location and will have a volunteer for 3 years. In the first year, the VISTA volunteer will assist in AFN management in organizational restructuring needed for improved volunteering, and will assist partner sites with technology access, training, technical support, and data tracking. In the second and third years, the volunteer will work on developing systems for cost sharing among the sites.

AFN is also working with other groups who work with the same East Austin population. They are currently helping train an Americorps volunteer to teach in Spanish. They are also working with groups in the Asian community to determine how AFN can better serve them by making available the software and training that would be most useful. They anticipate more such work will broaden AFN's reach in Austin, and thus create a more sustainable project.

AFN briefly considered implementing user fees but discarded the idea when they realized it might affect the trust users have in EACN. Community residents, staff have learned, are proud and timid. Many users would be embarrassed to pay only a dollar for the services, and

others might assume a fee means it is something not for them. AFN staff decided implementing fees might be too much of a risk and might erode their user base.

Part of ALA's sustainability plan is to build the community's capacity to provide and maintain its own computers. To this end, they developed a build-your-own-computer program for families, FamilyCARE (Computer Assembly, Refurbishment, and Enhancement). Staff, who have learned their skills from books and mentors, take participant families through every step. After learning about computer parts and how they function together with visual aids such as a pegboard with parts attached, students and parents "build" a computer with items they find at home, such as aluminum foil, Lego, cardboard, etc. Then the group goes to a local computer parts store and the families purchase a box, motherboard, memory, chips, and other items they need; often these are used items. Part of ALA's philosophy with the program is the community residents need to learn what they need and how they can get it. Building computers in the community addresses problems of constantly having obsolete materials and gives the community the knowledge that they do not have to live with what is given to them. For example, if a small nonprofit can take apart and fix a broken computer, they do not need to pay for service or a new computer; they can put together their own internal network of machines.

Project Expansions

Several network expansions have been made with financial support from the City of Austin. Also, Apple Computers gave AFN a grant that put five Macintosh computers, a printer, and a scanner in the East Austin Media Lab. AFN is continuing to add classes, especially basic computer use and introduction to the Windows environment (co-sponsored by AFN and the City of Austin DeWitty Job Training and Employment Center), two classes for seniors, and a re-designed Introduction to Web Page Design and Creation class. They also hope to create a bridge to higher-level computer training and to community colleges' offerings.

AFN has received several offers for assistance from various departments at the University of Texas. In Fall 1999 the University of Texas Graduate School of Library and Information Science (GSLIS) will provide trainers and materials for the Training of Trainers for volunteers placed at all AFN sites. The Telecommunications and Information and Policy Institute (TIPI), GSLIS, and the Radio-TV-Film Departments will provide evaluation services and

collaborate on planned public policy discussions among residents of East Austin, EACN partners, and customers and policy-makers.

Finally, the American Institute for Learning, a charter school working with teens and young adults, has agreed to place its students as trainers in various EACN sites. Several agencies providing services in East Austin have expressed an interest in collaborations for major grants and to become partner sites. AFN is also playing a more active role among other affiliates of the Community Technology Centers Network (CTCNet).

F. Project Outcomes

AFN established 11 community access sites with a total of 41 Pentium-class personal computers. All machines are connected to the Internet with a continuous high-speed ISDN line. People come to the access centers looking for information on family services and jobs, to send and receive e-mail, or just “to see what all the fuss is about.”

EACN’s network uptime of a monthly average of 98.6 percent is a big source of pride. They have learned that people who come to use a system that is down think they caused the problem, will not use a computer again, or worse, will not return to the organization that provided it. Thus, having a continually functioning network is critical to the sustained use and reuse of the system and, now, to the future of the access sites.

AFN staff had hoped that the project would see more public access use than it did. (From October 1997 to October 1998, community members used EACN 5,921 times and participated in training 1,306 times.² They also count a total of 2,207 volunteer hours.) However, they realized that the sites were quickly restrained by a lack of staff resources for volunteer coordination, marketing, and technical support for partner-owned equipment. Consequently, except for some early effects of the mass media campaign, access was effectively limited to people who were already coming to the organizations for other purposes.

Impact on End Users

It is likely that the greatest impact of the access and training provided to the East Austin Community is on community members’ self-esteem. The ability to find something for

² Due to EACN’s usage tracking system, these figures do not represent unduplicated counts.

oneself without help is often a new idea to people in low-income areas. EACN was able to offer individuals access to resources they would not otherwise have. Staff believe that when people feel good about themselves, they become better citizens, which may lower crime and drugs in the community. They are especially glad to be serving women who do not speak English because many of these women were not raised to believe they can do something themselves, let alone with technology.

The seniors at the Conley-Guerrero Senior Activity Center have accomplished much as a result of the project. The center is a place where approximately 150 seniors go during the day to play games, socialize, and participate in various activities. As such, it relies upon constantly having new things for the seniors to do. EACN placed one computer, a printer, and a donated dial-up account at the center. Staff and seniors have used the Internet to research topics and develop new programming ideas, and the seniors are now asking for a whole lab. Seniors find information on the Internet and then present it to the larger group. Three of the seniors have created web pages and can communicate with friends and grandchildren. Center staff believe that having somebody to write to keeps seniors involved in the world around them. One senior talked about sending e-mail greeting cards, researching his osteoarthritis, finding information for seniors on AARP's home page, reading world news, and finding new jokes to tell. Staff use the computers to develop activities, learn what other senior centers do, and research nutritional programs, for example. An Internet co-trainers team was trained in Spring 1999, and two seniors have returned to co-teach the next team.

Visitors to Businesses Invest in Growth (B-I-G) have access to research they did not previously have. B-I-G has provided entrepreneurship training, such as creating business plans and conducting feasibility studies, for several years. Prior to the project, users had to go to the library to use what are typically outdated books to find information about an industry. Now it is easier for them to get the information they need after a business consultant shows them how to access the Internet and to do searches.

And not only do residents feel good about what they can do, but they have gained what evaluators are calling "community competence." That is, the East Austin community as a whole has gained knowledge and skills that enable it to do more with what it has. The project has built capacity for self help, rather than forcing community members to wait for someone from outside the community to come to help them. People gained skills for their present and future jobs, and schools are asking for more computers. Project staff have found that any class they offer is attended, and people are always asking for more and different classes.

ALA's build-your-own-computer program gave participants not only the satisfaction of knowing they can build and fix something technical, but also discipline, patience, and problem-solving skills and processes they can use in other endeavors. Moreover, many families now have a computer for a significantly lower cost. Staff estimated that building a recycled and refurbished computer saves families \$200 to \$250; before computer prices dropped dramatically, families were saving \$500 to \$600. Many of the students seem to know they have done something important, staff report, but they likely do not realize how much they know compared to people in other communities who go out and buy new computers. Also, ALA staff believe the experience has nudged parents to take a greater interest in and push for more in their children's schools. For example, staff mentioned several parents who have leveraged their children's knowledge and experience in building a computer to get them in better classes at school.

One frequent user is a man who worked for the local cable access company and whose producer wanted him to design a website to promote a new show. He took an EACN training class, and a month later he had created several websites, begun locating and sending e-mail to Army friends around the world, and even took out a personal ad. He considered buying a computer, but with so many places to access them in the community, it did not seem worthwhile to buy something that would soon be outdated. Now he wants to make a career change to work in the high-tech industry in Austin. He has sent numerous job applications and resumes, all by e-mail and fax machines, and has researched all of the companies to which he has applied via the Internet. He is gathering a portfolio of web pages he has designed.

Another user of EACN claims to be an expert in practicing computer avoidance and has been afraid of technology in the past and has always had low expectations for herself with using machines. She recently went back to school and uses the EACN computers to type papers and has recently applied for a City contract to develop an anthology of local women's poetry. She uses the Internet to look up additional funding sources for her anthology and for a video she wants to create. Without EACN, she would be able to go to the library for access, but would be limited to a half hour and would have to use a different computer for word processing and to access the Internet. Aside from school and other projects, she sees the Internet and computer labs as a new form of recreation. Also, the computer labs allow her enough time to practice her skills so that she does not sink back into computer avoidance. She says by learning to use e-mail and the Internet, she has opened up to other gadgets such as a video camera. As the group interview during the site visit unfolded, she and the man preparing a portfolio made an agreement that he would design her

website in order to add to his portfolio. She described her encounters with EACN as “sharing experience, strength, and hope.”

Impact on Other Beneficiaries

Several respondents commented that the project helped in letting the City understand issues of access and develop its own role and agenda in providing it. Moreover, as the original AFN director was promoted to the officer for Internet services for the City, AFN and access have become more visible in the City government landscape and have been able to exert more influence on City policies.

Through its work with Outernet, the Internet service provider for AFN, the City of Austin was able to negotiate access to City building roofs for wireless equipment. In exchange for placing equipment on the roofs of five buildings, Outernet will wire and provide routing for public access in one building, thereby reducing access costs for AFN.

Impact on Grant Recipient and Project Partners

Many of the participating organizations have learned to use technology to leverage what they already do. ALA has been able to infuse technology education into their family learning curriculum, which has not only helped the families, but has enabled ALA to generate more funding from a wider variety of funders, particularly those who view the technology as sexy.

The project began to see some glimmer of hope in the various organizations communicating with each other; toward the end of the grant, organization staff began referring their customers to other organizations in the network. Prior to the grant, it is likely that they had no idea what other organizations did, but afterwards, cross-fertilization of organizations and customers seemed to be expanding. Also, many of the labs are open to other community groups. GED classes are taught at several, and the NAACP Youth Programs use the labs in the summer.

Replication

ALA is expanding some of its programs in to other neighborhoods. LBJ students are currently working in the Dawson Neighborhood of Austin providing computer access in portable classrooms that are not being used by a school. Students are building websites and computers and using some computer applications. ALA is also working with Travis County and the City of Austin Housing Authority to provide access in public housing locations.

ALA is also planning to expand the build-your-own-computer program into a College and Career Preparation Program for 20 to 25 kids aged 10 to 15. The new program will be more formal and will require attendance and provide report cards.

G. Lessons Learned and Recommendations for Other Communities

Developing Trust Among Stakeholders and Potential Users Is Critical to Beginning and Sustaining a Project. The most important lesson AFN and other project partners learned is that earning the trust of the community is paramount. When users early on asked how long the computers would be in the community, staff learned that these people have had the rug pulled out from under them repeatedly by people who were going to come in and “help” them. While staff seemed to think they tread too lightly and compromised some of the project because of it, they still believe trust is the key to a community project.

Part of the reason that AFN did not get early buy-in from sites for project outreach was that AFN was asking site staff to stake their reputation on something they did not really understand. After some trust was built among the site staff that AFN was really trying to help with some effective strategies, sites were more comfortable with the project and were able to invest more into it.

The staff repeatedly stressed the importance of listening to and knowing their customers. Staff who come from outside the community in particular should be humble when talking to community members and as unobtrusive upon entering the centers as possible. Spending time in the community to learn what the project can do to help the community members help themselves is critical. They stressed the importance of differentiating between creating a network *in* a community and putting a network *on* a community.

Another aspect of developing trust is having staff members at the access site who are familiar to customers. Many times users have very basic questions, such as how to turn on the computer or how to open an application, that they are very embarrassed to ask someone they do not know. Through other work, project staff have seen that technical people can at times be arrogant and condescending to people with these questions, reinforcing the notion that people from East Austin are not supposed to use computers.

One of the results of developing trust is generating buy-in from stakeholders that transfers to users. AFN staff are, perhaps, most pleased with their work with the Conley-

Guerrero Senior Activity Center. While the center was the last one to join EACN and spent almost a year in discussion with AFN, they immediately integrated the computer and the Internet into the daily work of the organization. Project staff first trained the senior center staff to use the computers and the Internet, and the staff then used their skills for programming ideas and enhancements. When eight seniors signed up for five class spots, the director assigned a staff member to co-teach the classes with project staff. AFN staff attribute the seniors' enthusiasm for attempting to master something entirely new to them to the Conley-Guerrero staff buy-in.

Defining Roles and Responsibilities for Partners Is Essential to Maintaining Good Working Relationships. Project staff from several of the organizations involved stressed the importance of defining partners' roles up front and remaining flexible when things change. While they acknowledged that it is difficult to define roles without knowing how the project will play out, it is pertinent to be as formal as possible in setting responsibilities. Establishing expectations is particularly important when organizations are fiscal partners. Within these formal relationships, partners must continually work together to refine their common goals. Community-building among partners must take place throughout the project, not just at the beginning.

Similarly, it is important to establish electronic relationships among partners early. Many organizations that have little technology infrastructure are not used to communicating electronically and are not accustomed to checking e-mail frequently. This led to some miscommunications and lack of communication in the EACN project.

One respondent commented that partnerships may be best used when the partners have an established track record and working relationship prior to a project. This way organizations are aware of the varied agendas and can determine how best to work within them.

Use Reliable and High-Quality Technology. Project staff found that it is important to get the best technology available. This meant investing in good printers and not accepting donations of used computers or less than Pentium-class PCs. In purchasing new equipment, projects should get the best warranties (usually 5 years) and should purchase from established companies. Staff found that getting technical support from one of the large companies was much more difficult than from a local, but established, company. EACN found that some of the sites that provided their own equipment or used existing equipment had many more problems than did sites that used new equipment. Used equipment, they found, is not worth fixing if you have to pay someone to fix it. However, they never throw away anything they can fix themselves.

Data Collection Must Begin Early in the Project. Project staff believe some of their troubles in collecting usage data stem from not starting early enough in collecting data. If users had been accustomed to signing in from the start, perhaps they would not have been reluctant to do so later. A computer sign-in program in use from the beginning would have been helpful.

Training Should Be Tailored to Individual Groups. Training provided for the senior citizens at the Conley-Guerrero Senior Activity Center was initially planned to introduce the seniors to the Internet and some of the resources available over a several hour period. Three months later, three seniors graduated from the training with certificates of completion. Training the seniors gave EACN trainers new insights into training. One respondent commented that she learned more about training in those classes than with any other group, and the strategies could be applied to other, very different groups. They learned that seniors like everything written down, that they like to repeat tasks to make sure they understand before moving on to the next task, and that patience is the most important trait for trainers. The seniors were very concerned that they were taking too long to learn simple skills, especially because the class combined using computers, keyboarding, and searching the Internet at the same time. In working in a bilingual environment with several hard-of-hearing students, staff learned how training, including pace and sequencing, must be tailored to each group of students.

However, AFN and ALA also found it was easier and less coordination-intensive to provide centralized training. If a community network has a hub for training and satellite centers for practicing skills, they can focus their efforts on one geographic center, and can choose one where they are already trusted. Central training is simpler to market, too, but it does require more work to tailor training to each group. Project staff see this as a worthwhile trade-off.

Enlist the Services of a Volunteer Coordinator to Manage Volunteers and Maintain Continual Influx of Volunteers. While EACN did not generate the numbers of community-based volunteers that they had hoped for, they did have a number from outside the community. Coordinating these came to be a logistical challenge for each of the partners. Working with volunteers consistently was very time consuming for AFN and access site staff. They recommend beginning a project with a volunteer coordinator who could work with each of the sites to monitor their volunteer needs and the available volunteers and their skills. Late in the grant period, EACN joined the Directors of Volunteers in Austin (DOVIA), which assists groups in obtaining and managing volunteers. DOVIA also facilitates groups helping each other.

Moreover, they recommend establishing a volunteer job description and policies at the outset. Policies would include expectations of hours per month, absenteeism, and sensitivity to literacy, homelessness, and disability status. EACN initially asked volunteers to assist for 1 year. They later found asking for 2 hours per month for 3 months was a more realistic expectation. They make certain exceptions for community volunteers, especially those who speak Spanish or are willing to help in administrative ways.

EACN staff also recommend developing an institutional relationship with a university. While the project benefited from many student volunteers, these volunteers graduate and there is no mechanism for continuing the relationship. A relationship with the university would guarantee a continual bank of volunteers.

Select Sites That Are Accessible and Safe. Sites selected as computer centers should be accessible. This includes creating ADA-compliant rooms, using screen-enlarging software, trackballs, and tables high enough for wheelchairs. It also means sites that are located on bus lines and where it is safe for children to walk. One site selected required children to cross railroad tracks that were also gang boundaries and walk through several unsafe blocks to get to the center. Consequently, this site did not receive much traffic.

H. Summary and Conclusions

The East Austin Community Network is both an electronic computer- and Internet-based network and a social network. Its innovation lies in the fact that the electronic network was built through the social networks present in the community. Significantly, AFN staff worked from within the community to build trust among community members and agencies. Early on, they saw the importance of listening to and knowing their customers and the buy-in that generated.

Building trust among users and partners is critical for any community project, and the extent that EACN did so for community members is important. While it is a process that may vary across communities, the principles of building trust are the same: work from within the community and not outside, don't promise more than you can give, don't create more barriers to receiving services, understand existing capacity, create understanding of new systems, and most of all, talk with people. The EACN project partners' *approach* to working in the East Austin community is being replicated in other areas of Austin, and the approach likely will be replicated elsewhere, as long as the *substance* of the work meets the needs *of* the community, as determined *by* the community.

