

## **Structuring Access: The Role of Public Access Centers in the “Digital Divide”**

### Abstract

This paper explores ways in which public libraries and community centers structure access to the Internet in disadvantaged and minority communities and in so doing, contribute indirectly to the “digital divide.” The study site offers a best case scenario in terms of opportunities for free public access by poor and minority communities to the Internet. Numerous public access sites have been made available to community residents, allowing researchers to look beyond typical access challenges, focusing instead on experiential aspects of Internet use in these sites. Through interviews and observations, researchers noted several factors at the local level that both facilitate and limit residents’ access to and use of the Internet. Findings suggest that while public libraries are a favored site for many federal and foundation programs designed to bridge the digital divide, as they are currently configured, they may not offer the best settings in which to engage those considered vulnerable to that divide.

## **Structuring Access: The Role of Public Access Centers in the “Digital Divide”**

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## **INTRODUCTION**

One of the critical policy issues being raised by both academic critics of the Information Society (McChesney, et al, 1998; Mosco, 1996) and the Clinton administration (NTIA, 1999) is the growth of a digital divide between information “haves” and “have-nots” in the United States. The divide cuts between rich and poor, urban and rural and, particularly, between the ethnic Anglo majority and the Latino, Native American and African-American minorities in the United States (NTIA, 1999). More specifically, differential access to computing resources, telephone connectivity, and the Internet, is most related to ethnic and minority group affiliation, geographic location, household composition, age, education, and income level (NTIA reports, Hoffman and Novak, Schement, etc.)

Most national policy attention to-date has focused on divides or gaps in terms of access to the Internet and computer use. Concern about these gaps in access and/or use centers on the likelihood that those without these resources are being disadvantaged in terms of their educational success, their ability to acquire job skills for the information economy, and their capacity to access information about jobs and government assistance programs. The gap also may limit effective participation in the forms of political discussion and mobilization that are increasingly being conducted on the Internet (Benton Foundation, 1998).

In theoretical terms, this study examines “access” in terms of how this digital divide is structured within institutional settings, relying on both political economy analysis and structuration theory proposed by Anthony Giddens (Giddens, 1984). The paper argues that while economic factors powerfully affect the structuring of who does and does not have access to computers and the Internet, a number of other institutional and social structures are in play as well. For example, while both macro and micro policy and economic factors may limit an individual’s ability to purchase a computer or to obtain Internet access, certain national and local institutional practices limit and constrain policy initiatives that have been created to address the digital divide in specific communities.

Using this institutional focus, this paper discusses the structuring of access in a particular case study of Internet public access offerings in Austin, Texas – a city considered by the researchers as a “best case” scenario in terms of public access potential. Austin has a strongly information oriented economy, with much new job creation in that sector. Austin also has an important, if less tangible, information technology edge to the local culture, at least for the

majority population. Local institutions such as The Austin Project, the Austin FreeNet and the public libraries have worked hard to be at the forefront of efforts to create opportunities for public access to computers and the Internet for those who cannot afford them. These Austin institutions have taken advantage of Federal programs, like the National Telecommunications and Information Agency's (NTIA) Telecommunications Infrastructure Assistance Program (TIAAP). They also relied on the Texas Telecommunications Infrastructure Fund (TIF), a legislatively-mandated state-level program that allocates approximately \$150 million per year to building and connecting local technology programs, primarily in public schools, public libraries, community colleges, and rural public health centers. The Austin public libraries have also just received a large grant from the Dell Foundation for public access centers. As a result, almost all city libraries and a number of community centers in Austin now offer free public access to the Internet and will soon offer expanded access.

With this advanced level of access at the backdrop of the study, the research raises an important question: even when public access to the Internet is *not* a barrier in minority communities, what social and cultural structures may continue to keep certain people from using public access technology? A case study of specific institutional settings such as public libraries in Austin permits an examination of the effectiveness and impact of some of the assumptions in current policy initiatives. These include the idea that public libraries should be a primary point of public access to the Internet, a policy now reinforced by private charitable giving by Dell, Microsoft, the Gates Foundation, and more recently, the America Online Foundation. The study reveals some of the strengths and weaknesses of several kinds of local library approaches to encouraging and supporting public access. It explores who is currently using public access at these sites to see how minority communities are, in fact, being served. Findings suggest that public libraries may not be the only optimal sites of public access. For example, community centers and local churches also are important institutional settings to consider.

In sum, the main question for this paper is how access to the Internet for disadvantaged and minority communities is being constructed in one situation which represents what is in many ways a best case scenario for Internet access: Austin, Texas. The efforts to structure public access in Austin reveal both successes and failures that have implications for other efforts in the U.S. What structural factors at the local level tend either to facilitate or limit residents' use of the Internet? How are libraries structuring access? How do public access policies fit in with

libraries' other missions and objectives? What aspects of library-based public Internet access are working well? What problems arise? And what structural solutions to those problems are possible?

First, however, it helps to have an understanding of how the digital divide issue has been articulated and the policy mechanisms that have been created in an attempt to "bridge" that divide.

### **THE DIGITAL DIVIDE: INFORMATION "HAVES AND HAVE-NOTS" IN THE UNITED STATES**

In October 1993, the Clinton Administration launched with much enthusiasm its National Information Infrastructure (NII) initiative and painted the following image of America's future:

The Administration's vision is of a ubiquitous network of networks that will help America to prepare its children for the workplace of the twenty-first century, allow all Americans to continue their education and upgrade their skills throughout their lifetimes, extend lifesaving medical care to remote rural areas and promote healthy communities, and make America's businesses the most competitive in the world. The President has challenged the nation to connect all of its schools, libraries, and hospitals to the information superhighway by the year 2000. (US Dept. of Commerce, 1996, Letter from Michael Kantor)

The NII, which was eventually codified in the Administration's publication, "Agenda for Action," established the Internet as its primary infrastructure and put forward numerous policy objectives that revolve around three central factors: "access, resources, and skills" (Hoffman, Novak, and Venkatesh, 1998). About the same time that the NII was being declared a major initiative on the national agenda, the Internet (initially focusing on e-mail and the World Wide Web) was becoming accessible to more people.

Now, nearly seven years later, more than forty percent (40 percent) of households in America own computers, compared to 33 percent in 1993, and 25 percent have Internet access at home, compared to under 10 percent in 1993 (NTIA, 1999). When analyzing access to the Internet both from home and from outside the home, the percentage of Americans online jumps to 1/3 (NTIA, 1999). As recently as 1997, the President declared a new goal: to wire every home by the year 2007 (Clinton, 1997). At that time, about 78 percent of all schools were wired; by 1998, 84 percent of all public libraries had some form of connection to the Internet (Bertot and McClure, 1998).

At the same time that more households are acquiring computers and using the Internet, the nation's economy has become increasingly dependent upon information technology, driven

in large part by growth of the Internet (Emerging Digital Economy, 1998). For example, some experts have predicted that by 2006, nearly half of all U.S. workers will be employed either by industries that produce information technology (IT) or by industries that are intensive users of IT (as compared with 40 percent in 1989) (Page, 1999). Several other indicators point to the significance of information technology in the U.S: (Cybernation, 1997):

- ❑ High tech is the single largest manufacturing employer in the U.S.
- ❑ High-tech wages are 73 percent higher than the average private sector wage.
- ❑ High tech is the single largest industry in the U.S. in terms of sales.

However, it is clear that the benefits of the emerging information society and economy are not evenly spread. In particular, the ability to access and use information by computer and the Internet is very unequal. The following section shows the nature of the Digital Divide.

### ***Indicators of The Digital Divide***

The term “digital divide” has come to represent those in the United States who are not using computers to connect to the Internet, despite declining costs of computers and other equipment necessary to join in the activity of the Information Age. Though most American households have access to telephone services, and while more and more households purchase computers and access the Internet each year, the gap between those with and without telephones, personal computers, or Internet access is widening, not narrowing. Government agencies, academics researchers, national foundations, and community groups have been working to address this gap for several years.

Most reports on the digital divide focus on two levels of connectivity and use: household and, more recently, individuals. The U.S. Department of Commerce recently released its third report documenting an increasing gap between what it terms information “haves” and “have nots” (NTIA, 1999). In essence, the digital divide is a “connectivity gap” that is exacerbated by several interlocking factors: race and ethnicity, geography, gender, income, and education level. Individuals and/or households belonging to any combination of the groups disadvantaged along these dimensions are likely to populate the digital divide. While a number of digital divides between major groups or categories of people exist, this discussion focuses primarily on ethnicity/race; location; and income, education and other aspects of social class.

Findings from the U.S. Dept. of Commerce's most recent report also indicate the following connectivity gaps related to race and computer/Internet use (NTIA, 1999):

- ❑ “Whites are more likely to have access to the Internet from home than Blacks or Hispanics have from *any* location” (from Executive Summary, p. 1);
- ❑ “The gaps between White and Hispanic households, and between White and Black households, are more than six percentage points larger than they were in 1994” (from Executive Summary, p. 1);
- ❑ “A White, two-parent household earning \$35,000 is 3 times as likely to have Internet access as a comparable Black household and nearly 4 times as likely to have Internet access as Hispanic households in the same income category” (from Part I, Household Access, p. 5).

Additionally, Hoffman and Novak have amplified critical attention to race/origin differences and Internet access and use in their analysis of demographic research on the Internet. Their work has concentrated primarily on illuminating aspects of the “digital divide” as it reflects differences between Whites and African-Americans in the U.S. and their access to computers, which the authors suggest is the “prerequisite for Internet access and Web use” (Hoffman and Novak, 1998). Statistically significant findings include the following:

- ❑ “Whites are significantly more likely than African-Americans to have a home computer in their household” (Hoffman and Novak, 1998, p. 2); and
- ❑ “Whites are significantly more likely to have ever used the Web at home” (Hoffman and Novak, 1998, p. 3).

It should be noted that Hoffman and Novak found variations in racial patterns of computer use when they analyzed the determining role of education and income.

The 1999 Dept of Commerce report found also that “place” affects the connectivity gap. For example, many rural areas lag behind in terms of Internet connectivity. There is also some variation in terms of connectivity among regions, and among locations within regions. Telephone penetration, for instance, in the Southern states lags a bit behind that in the Northeast, Midwest, and West. However, when viewed by location within region, central cities in both the South and the Midwest and rural areas in the South and in the West, exhibit the lowest telephone penetration rates (NTIA, 1999, Part I, p. 3). Variations exists among states as well. Southern states tend to lag the others in terms of telephone penetration. Finally, Hoffman and Novak also

point out differences between Whites and African-Americans in terms of “where” they access the Internet. For example, the authors report that “White web users are more likely to have ever used the web at home or work, while African-American web users are more likely to have ever used the web at school” (Hoffman, Novak, and Venkatesh, 1998, p. 148). Similarly, the authors report that African-Americans are more likely to use the web in the afternoon, while White users use the web in the evening (Hoffman, Novak, and Venkatesh, 1998, p. 149). (Afternoon use is more likely to be at schools or public access points, while evening use is more likely to be at home, according to interviews reported below in this study.)

These facts suggest that geographic location, from both macro and micro perspectives, plays a key role in the connectivity gap. In fact, the Commerce Dept. advances Community Access Centers (CACs) as essential public access sites for the Internet given evidence that CACs are used often by individuals who do not have computers at home or at work, or by those who are unemployed and seeking a job. These findings point to “place” as an important factor in addressing the digital divide.

Level of education is another key factor in predicting levels of computer use and Internet access. Theoretically, it is also an important indicator of “cultural capital,” the knowledge, dispositions and abilities that people acquire from schooling, family, friends, etc. which lead them to be able to use and understand media like computers and the Internet (Bourdieu, 1984). The Commerce Dept. report indicates that “those with a college degree are more than eight times as likely to have a computer at home, and nearly 16 times as likely to have home Internet access, as those with an elementary school education”(NTIA, 1999, Part I, p. 1).

### ***National, State, and Local Remedies/Responses***

Recognizing the increasing, not decreasing nature of the digital divide, the Administration’s policy for the NII advances two simultaneous objectives: “pro-competition policies, to reduce the prices of basic phone and information services, and universal service policies will continue to be important parts of the solution” (NTIA, 1999, Executive Summary, p. 1). The Telecommunications Act of 1996 has established the regulatory framework for development of both of these objectives.

The Clinton Administration’s NII policy assumes that information tools such as computers and the Internet are both critical to personal growth and economic success. Hence, several remedies and responses have been developed at various levels of government to address

the expanding digital divide in the United States. The federal universal service policy encourages and supports telecommunications industry competition. Put simply, all service providers contribute to a universal service fund which is then tapped to reimburse providers for above-cost services to high cost urban and rural areas. The federal E-Rate program balances support of competitive interests with a scheme of telecommunications discounts to lower the financial burden of connectivity for public institutions such as schools, libraries, health care institutions, and institutions of higher education.

Augmenting the E-Rate program is another government grant program, the Telecommunications and Information Infrastructure Support Program (TIIAP). Since its creation in 1994, TIIAP has sponsored numerous planning, demonstration, and access projects with the overarching goal of linking America's schools, libraries, and hospitals to the information superhighway while also trying to ensure equal access to telecommunications services among the haves and have-nots.

The TIIAP program funds a wide variety of organizations and multiple partnership situations. In the program's first two years (1994-1995), two-fifths of all grant funds were used to help fund education institutions while one third went towards community service organizations, with libraries comprising 6.1 percent.

In addition to federal programs, many states have launched complementary initiatives to facilitate Internet access. For example, in 1995, anticipating the benefits of the growing information economy and hoping to prepare Texas to compete in the global information economy, the Texas State Legislature initiated its own deregulatory framework: the Texas Public Utility Regulatory Act of 1995 (PURA '95). One of the many policy guidelines for this legislation was to "raise the living standards of all Texans by enhancing economic development and improving the delivery of education, health, and other public and private services and therefore play a critical role in Texas' economic future"(Texas Revised Civil Statutes). An explicit expectation has been that advanced telecommunications will assist in raising living standards and enhancing economic development in Texas. As part of the PURA '95 legislation, a special fund was created called the Telecommunications Infrastructure Fund (TIF). Its goal is to provide assistance in the form of grants to ensure that libraries, public schools, rural health care organizations, and colleges and universities are not disadvantaged by this deregulatory legislation.

Finally, at the local level, on-line, or computer-mediated, community information networks, or community technology centers (CTCs), have shown to be an important and rapidly growing part of the NII. Worldwide, there is a growing number of community networking sites. Although there are many types, purposes, and technical configurations of these networks, most share one primary goal: to promote and increase free or low-cost public access to diverse types of information that are available through linked networks of which the Internet is assumed to be the prototype.

The Community Technology Centers' Network (CTCNet) is a national membership organization run under the auspices of the Education Development Center (EDC) with 250 affiliate organizations across the United States. Operating on the front-lines in community-based technology, these centers include libraries, youth organizations, multi-service agencies, stand-alone computing centers, cable access centers, housing development centers, settlement houses, as well as non-profit organizations. Apart from community networking, their services include other activities from adult literacy to after school programs. Their findings, drawn from Internet users themselves as part of a formal evaluation project (Chow, Ellis, Mark & Wise, 1998) supported the conclusion that the centers were very important for training and skill development, for open or unstructured use, for advancing education goals, and for building community. Community members' ability to use the centers for interpersonal communication was important for effective technology use. The evaluation survey also found that community technology centers are a particularly important resource of access or connectivity for women and ethnic minorities.

### **RESEARCH QUESTIONS: THEORIZING THE DIGITAL DIVIDE**

The literature just reviewed on the digital divide and the federal, state, and local efforts established to redress inequities establishes that a connectivity gap exists among certain groups in society that exhibit specific socioeconomic characteristics. Researchers in the political economy and policy traditions have noted strong tendencies toward inequality of access to and benefit from new technologies (Schiller, 1996; Golding, 1998). These scholars have tended to focus on the inequities resulting from market economy or capitalist development of the new information technologies. Related scholarship has noted the tendency toward deregulation and away from the sorts of government regulation or intervention that might ameliorate the inequalities of access (Hills, 1998). They have tended to offer, in effect, a very macro and

economistic view on how this gap or digital divide is produced or reproduced in society. From the political economy school, Mosco (1996) makes an interesting innovation by introducing selected elements of structuration theory (Giddens) to examine stratified access to media and information technologies.

This study expands use of Giddens' structuration theory to guide examination of some of the processes by which this connectivity gap is created and even perpetuated in the larger political and economic sphere. Giddens offers several useful concepts that help to describe at both macro and micro levels of analysis ways in which specific policies and institutions might unknowingly contribute to structuring aspects of the digital divide. Giddens' views on rules or constraints and resources or opportunities for those who act with them or within them helps explain how institutions restrict or enable access.

Breaking from the macro political economy and policy literature, this study explores how local institutions such as public libraries that work within current U.S. public policy structure Internet access. It examines how institutional practices structure the ways in which individuals who perhaps cannot afford information resources experience computers and the Internet. The study examines this local structuring from three perspectives: 1) the role of public libraries in facilitating access for new computer and Internet users, 2) how content filtering affects public access activity, and 3) how library and access centers' physical structures affect public technology use.

The other set of questions explored in this study revolves around issues raised by patterns of access use by different disadvantaged communities. Now that public access is being made available in low income areas, who is taking advantage of that access? What helps build aspects of local knowledge or cultural capital about new technologies and their usefulness to economically disadvantaged community members? Finally, what social or institutional mechanisms serve to facilitate or limit their use of public Internet access facilities?

This latter set of questions requires additional theorization. First, it is important to explore how the structure of public access in low-income communities meets the disposition of those communities and allows them to take advantage of the access opportunities offered. For an understanding of how communities might make use of Internet technology, we find useful the concept of cultural capital by Bourdieu (1984). He notes that people often have access to informational media by virtue of their economic capital, that is, whether or not they can afford to

purchase that access. (Earlier U.S. policy on universal service for telephony aimed at supplementing individual economic capital to increase access.) However, Bourdieu also notes that even when people have access to sources of information and culture, they do not always use them for the same purposes for which they were intended (1984). Cultural capital tends to determine what people choose, enjoy and understand. It is based on education, family socialization patterns<sup>1</sup>, family social networks, peers, and occupational experiences. These are related to economic capital such that a lower economic class position may prevent a family from access to the best education, for example, or from experiences that expand cultural capital, like travel or participation in the arts. However, cultural capital becomes a factor in its own right. This study uses the concept of cultural capital to begin to examine what kinds of people come in to use public access to the Internet and what they use it for.

#### **METHODOLOGY: A CASE STUDY OF PUBLIC LIBRARY AND COMMUNITY ACCESS CENTERS**

In June and July of 1999, approximately 26 students enrolled in the University of Texas first summer session course “Cross Cultural Media.” For three weeks, the students did participant observation of Internet usage as Internet assistance volunteers at four libraries and two community centers in East Austin. They observed 476 people using the Internet at these sites. Of them, approximately 10 percent, or 46, people were interviewed about their Internet experience. Each student completed an analytical report of his or her observations and thoughts as a final project.<sup>2</sup> In a replication of this participant observation, 25 students enrolled in fall 1999 semester courses on Minorities and New Media volunteered in the same libraries and centers, plus one more center, the Arthur B. DeWitty Job Training Center. They observed another 354 people over a two week period in September to look at a time when children were back in school. In both periods, students also observed the functioning of the libraries and centers to see what limits and rules were placed on users, as well as what resources were offered

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<sup>1</sup> Burleson, Delia and Applegate (1995) studying communication skills found that parents from more advantaged socio-economic backgrounds are more likely to transmit to their children complex social thinking skills. They argue that through socialization these advantages are transmitted perpetuating social imbalances. Their findings seems to support the importance of family socialization in its transmission and maintenance of cultural capital. Burleson, B., Delai, J. and Applegate, J. (1995). The socialization of Person-centered Communication: Parental Contributions to the Socio-Cognitive and Communication Skills of Tehir Childen. In M. A. Fitzpatrick and A. Vangelisti (eds.) Perspectives in Family Communication. Thousand Oaks: Sage (pp. 34-76).

<sup>2</sup> The libraries observed were Carver: 1161 Angelina St; Cepeda: 651 N. Pleasant Valley Rd; Riverside: 2410 E. Riverside Dr.; and Terrazas: 1105 East Cesar Chavez St. The community centers observed were Montopolis Community Center, focused on youth, and the Conley-Guerrero Senior Center. The September fieldwork added the DeWitty Community Technology Center.

to them. In effect, they observed the immediate, local aspects of how public access to the internet is really structured, looking for the practical reflections of Giddens' notion of the way that institutions provide both rules and resources (1986).

## FINDINGS

### *How Libraries Structure Access in Disadvantaged Communities*

Libraries are responding well to the new mandate of providing Internet access in addition to classic library functions. However, public libraries face challenges in this role. Several sites examined presented both physical structuring and social structuring problems. Spatial layouts varied, with newer facilities typically being more-Internet friendly. Use of computer resources also varied in terms of staff dedication to traditional library book cataloguing versus software or Internet access for patrons. Staff attitudes differed in terms of whether they saw public Internet access as an uncomfortable new responsibility or as an opportunity to engage potentially computer oriented pre-teens and others in an environment where reading and writing are important, whether on-screen or in books.

In terms of the technologies available, all of the libraries where observations were made had three computers devoted to Internet usage. These computers and Internet access were provided by a local technology access organization called Austin Free-Net. Of the three computers, two were equipped with filtering software known as Cyber-Patrol, and, at most Austin public libraries, one Internet-access computer is unfiltered. It was the policy of all the libraries to require surrender of picture identification by the patron to use the unfiltered machine at the library. According to one librarian, Cyber Patrol is only effective at blocking full frontal nudity and sexual acts.<sup>3</sup>

Librarians stated to several of the researchers that they were concerned about ensuring users' privacy. However, researchers noted that users sometimes turned around to check if anyone was watching them. Even though the librarians made no effort to "spy" on the users, some users may have altered their activities or chosen not to use the computers for fear of being monitored.<sup>4</sup> At several libraries, the difficulty of turning on and off the filtering program led the

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<sup>3</sup> Orlando Kell and Jonathon Duffy, Report to RTF 365 class project, observations at an East Austin public library, July 7, 1999.

<sup>4</sup> Chand Schimkowsch, Report to RTF 365 class project, observations at an East Austin public library, July 7, 1999.

librarians to leave one machine constantly unfiltered, which frequently added to a log-jam of users that were too young to use the unfiltered machine.<sup>5</sup>

Other constraints included the fact that at all of the libraries, Internet computer users were allowed only to save (download) and upload material from or to the Internet on 1.44 MB floppy drives which they needed to provide themselves. The libraries' Internet computers all used an outdated version of Netscape for browsing the World Wide Web. This older browser and download policy prevents some users from accessing sites that require the latest downloadable plug-ins to Netscape. "One user was unable to watch a trailer on the *Wild Wild West* site because he couldn't download a plug-in."<sup>6</sup> As Internet bandwidth continues to increase, the policy of limiting downloads will result in continuing decreases in achieving the full Internet potential by library clients. Small web sites with picture data exceed 10MB now and that will increase exponentially in the near term. In addition, libraries do not seem to have a box of 1.44 floppy disks available for clients to purchase when needed.

Each library's public access computers presented the same initial sign on screen that included links to sites that offered free e-mail, chat, search engines, jobs, the City of Austin site, and special sites for kids. The initial screen is currently available only in English, which creates a structural difficulty for a number of the Spanish-speaking users. Generally all the computers had printers available with the exception of the unfiltered machine at the Cepeda branch that did not permit printing. Black and White printing was available at a cost of ten cents per page.

At all but the Cepeda Branch of the libraries, placement of the Internet computers was an afterthought to the design of the building. The Cepeda branch was designed with the computers as a showpiece in the middle of the floor plan. The spatial limitations varied from library to library. In the worst case, one library had to put them in the corridor leading to the bathrooms. Generally there was sufficient space to work on the computers comfortably. Some of the libraries will have tough spatial choices to make as they expand their Internet capabilities with new grant funds. There may be some conflict over space between the traditional library mission of printed materials and reading rooms, and the new mission of Internet access.

Austin Free-Net maintains the Internet computers quite well and none of the observers noted serious problems with equipment maintenance. However, many of the librarians felt

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<sup>5</sup> John Brooks, Report to RTF 365 class project, observations at an East Austin public library, July 7, 1999.

<sup>6</sup> Yangsu Kim, Report to RTF 365 class project, observations at an East Austin public library, July 7, 1999.

uncomfortable doing anything beyond re-booting or re-setting a machine's power. More serious problems usually resulted in a minimum of 24 hours downtime and therefore loss of access to the machine for that period of time.

Demand for access at libraries varied by time and place, but people often had to wait for access. Several of the libraries get about 300-500 people per day with about 20 percent coming in just to use the computer, according to observations by several of the librarians. These numbers will grow as awareness of the Internet among minority communities grow and more daily activities and job opportunities require knowledge access to the Internet.

When users are able to access a machine, usage is limited to 30 minutes at all branches of the libraries observed. The librarians or their assistants are in charge of monitoring Internet usage. Generally, when there is no other person waiting to use a computer, the policy is to allow as much time as a patron needs. Researchers observed occasions, however, when the librarians or their assistants arbitrarily would terminate a teen or pre-teen's session after 30 minutes without anyone else waiting to log on. It should be noted that the usage charts in the library are based on what patrons are able to use at the library, not necessarily what they would have used had they been able to work on the Internet computers as long as they wanted. These observations might suggest that Internet users at a public site like a library or a community center not have the time and leisure to explore to use the computer that someone with a good Internet connection and computer at home would have. Learning how to get the most from the Internet requires large amounts of time to "surf" and explore possibilities. This lack of access time presents a significant disadvantage to public access Internet users.

Presented with computer resources, libraries have not always been sure whether to dedicate them to their traditional mission of organizing print materials or their new mission of public Internet access. For example, in Austin, the Dell Computer Corporation had recently contributed three late model Dell computers to each branch of the libraries observed. Generally these computers have not been used for Internet access. At two of the libraries, the new Dell computers have replaced the Card Catalog File, an older DOS based program that could run on a less powerful, older machine. These computers have neither access to the Internet nor any other software for use by the library client. Two branches were exceptions. The Carver branch has utilized these late model computers with word processors and other useful software for patrons. The Riverside branch used the new computers and three others to make a room of Internet

accessible computers. This room is used from one to two hours per week for training on how to use the Internet. During the remainder of the week, the room and the computers in it are off limits for library patrons. So the choice of use for recent new computers reflected some uncertainty among and between libraries over priorities. (More computers will soon be donated to the libraries by Dell specifically to expand Internet access.<sup>7</sup>)

All the libraries provided working environments that were good to excellent, plenty of room and seating for reading and what appeared to be a good selection of printed resources. The libraries were generally well staffed with from two to four librarians and “assistants” available to help. The librarians and assistants were friendly and helpful. However, many libraries were understaffed for the addition of the Internet public access responsibility to their existing mission. For example, the Carver library staff is only six persons, so volunteer help was truly appreciated. Most of the children that come in to the library to use the Internet are in need of assistance and could use more help, especially on complicated tasks, like downloading music sites and video game passwords. For the older patron, just help in general seems to be the situation. Unfortunately, the limited size of the staff hinders the ability to help people on the Internet.<sup>8</sup> Librarians and assistants also had very varied levels of training for and comfort with computers and the Internet. Some were willing to help new users and some clearly felt uncomfortable doing so.

A complicating factor is the perceived conflict between use of library resources for entertainment or information. At the Carver branch, in particular, observers noted that some of the librarian assistants take advantage of a patron looking for entertainment related sites to show other capabilities the Internet offers. However, for the most part observed librarians and assistants seemed to have a bias toward the traditional information sources that the library has always offered. Attitudes varied but generally librarians in several of the libraries observed are not as supportive of Internet usage as book reading. While the librarians would make significant effort to help a patron find a book, the Internet policy in some branches was very often: “you are on your own.”

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<sup>7</sup> Stafford, Ann (September 16, 1999). “City of Austin, Austin Public Library Foundation, and Susan and Michael Dell to provide 10 community computer centers to and South Austin branch libraries.” Press release. Austin City Connection, City of Austin, Texas.

<sup>8</sup> Ben Archey, Report to RTF 365 class project, observations at an East Austin public library, July 7, 1999.

Currently most of the libraries and community centers have a hands off policy when it comes to helping people use the Internet, in part due to lack of training, in part due to a policy concern to respect peoples' privacy. So one structural problem is that users have access to the Internet through the library, but they are limited by their knowledge of what to do when they get there. The Internet station usually has signage of what not to do, but there is often nothing to encourage a new user of what to do when they can't do it themselves.<sup>9</sup>

Student volunteers several times saw adult novice users about to leave the library in frustration over the lack of human resources to help train them in Internet use. This is typical of interactions between a client and the librarian. "I heard I can get on the Internet here.' The librarian informed him that he must first sign up and then pointed out the Internet computers. He then let her know that he had never used the Internet before and had barely ever used a computer. The librarian let him know that the use of the Internet at the library was a self-serve system and that he would have to try on his own. The librarian did not mention that Internet classes are available at this site. He then asked for help, but the librarian politely reiterated that he was "on his own." Another frustrated patron, a woman looking for education grant information could have gotten that information, had assistance been available to her.

In other libraries, however, the staff were quite knowledgeable and helpful toward new or hesitant Internet users. The libraries also varied in terms of how willing they were to let pre-teen patrons use computers in groups, which was often the pre-teens' tendency (see below).

### *Community Centers as Points of Internet Access*

The three community centers that were observed: Montopolis, DeWitty and Conley-Guerrero Center, differed in important ways. During the summer, the Montopolis Center caters primarily to youth and children while Conley-Guerrero targets an elderly population. The DeWitty focuses on job training but also has the Austin Free-Net DeWitty Community Network Lab. The Montoplis and Conley-Guerrero centers have only one computer with Internet access for patrons. At the Montopolis Center the computer is in a large "play-room/library/television room" where distractions from children playing or a loud music video are much more common than at the library. The Internet computer at Conley-Guerrero shares a room with the Janitor's storage. The DeWitty center has several Internet/network computers in a separate room.

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<sup>9</sup> John Brooks, Report to RTF 365 class project, observations at an East Austin public library, July 7, 1999.

While both Montopolis and Conley-Guerrero centers appeared to be adequately staffed for their primary functions, volunteers and staff at these centers are not generally well trained in Internet usage. The DeWitty Center is much more adequately equipped and staffed, because computer and Internet access is seen as central to its primary mission of job training and career education. Even though libraries seemed to lack enough support staff for Internet assistance to patrons, they clearly had much more support available and were generally more suitable for Internet usage than two of the three community centers that were studied. Those community center computers were placed in the middle of rooms that sometimes presented noisy distractions as children played or televisions blared. Those two community centers studied supplied only one computer for access limiting the number of people that could be served. The DeWitty provided a good contrast, where the environment was quite and conducive to work, training was available, and access was not limited to half hour blocks, as in the public libraries, because more facilities were available. The DeWitty Center also served a more adult clientele, in contrast to the youth center function provided by both the Montopolis Center and several of the public libraries, such as the Carver Branch Library.

It seems that an increase in more specialized center facilities, as well as more adequate equipping and staffing of some of the existing centers, such as Montopolis and Conley-Guerrero, would help. National and local government programs, as well as charitable foundations, like Dell, need to pay more attention to such centers, as well as expanding their support for public libraries as access points.

### ***Who Is Using Public Access?***

The demographics of the Internet users at these libraries and community centers were predominantly teens and pre-teens. These two groups comprised 55 percent of the Internet users observed, 44 percent of the library and community center Internet patrons observed were classified as adults and just over 1 percent was elderly (Table One). In terms of gender, 60 percent of the people observed were male and 40 percent female (Table Two). Latinos were the group most frequently observed to be using the Internet at these libraries and centers (44%) with African Americans at 36 percent, Anglos at 19 percent with others only 1 percent (Table Three).<sup>10</sup>

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<sup>10</sup> There was an attempt to sample libraries and centers in both Latin and African-American sections of East Austin. Many (37%) of the users observed were at Carver Public Library (Table 4), in the center of the traditionally African-American part of East

Although pre-teens and teens seem to be the heaviest users, there is one significant and worrisome exception to this pattern among those who used the East Austin libraries and centers. Recalling that, overall, African-Americans were 36 percent of users observed, while 44 percent were Latino, it is statistically significant<sup>11</sup> that, of preteen males, 55 percent were African-American, 42 percent were Latino, and only 3 percent were Anglo (Table 5). That may be due in some part to the observed success of the Carver Branch Library, in the center of the traditionally African-American part of East Austin, in drawing in pre-teen users and making them feel comfortable and at home. It was almost shocking, then, to see that, based on the same sites, among teenage males observed at the libraries and centers, 62 percent were Latino, 10 percent were Anglo and only 28 percent were African American (Table 5). From follow-up conversations with small numbers of users, we gather that the image constructed of the Internet among African-American teenage males is not very positive. They don't feel the Internet is intended for them or relevant to them. They are also less likely, it seems, to see the local library as a comfortable place to spend free time.

Among girls observed using the Internet, the ethnic trends were quite different. Differences were statistically significant between groups, but much smaller. Among pre-teen girls, Latina were more often observed as users (61%) than African-Americans (38%). Among teenagers, Latinas were still observed more often (48%) but African-American teenage girls were still coming in to use the Internet (41%) in much larger proportions than the African-American teenage males. (Looked at another way, African-American teenage boys were 6 percent of those observed in public Internet access, while African-American teenage girls were 11 percent--Table 5.) From follow-up conversations with a few African-American teenage girls at the libraries, it seems that both they and their parents do see the library as a safe and desirable place to spend time, especially after school, and that the Internet is seen as an interesting means of expression. (To move beyond these initial indications, this same research project is now conducting follow-up research on this social construction of the Internet and access to it among minority youth now.)

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Austin on 11<sup>th</sup> Street East. This was balanced by the numbers of users observed in libraries at Cepeda (22% of total users), Riverside (16%) and Terrazas (18%), all libraries which serve largely Latino or Hispanic neighborhoods. See Table Four.

<sup>11</sup> The claim of statistical significance is based on the chi-square test at the P<.05 level for the cross-tabulations reported in Tables Four and Five. See the tables for reports of the exact significance level of specific comparisons.

### ***What Are People Using Public Access For?***

Adults tended to use the Internet usage for informational and social purposes. Typical adult usage involved E-mail, chat and research. Observed research activities included stock quotes, relocation strategies, salary calculations, genealogical data, and government program research or forms.

While adult usage tended to be more research oriented with some game playing, teens and pre-teens tended to focus on game playing and other entertainment activities such as email, World Wrestling Federation pictures, other sports, music, cartoons and cartoon character information.

### ***The Impact Of Cultural Capital Differences***

When one teen (a 13 year old African American male) was asked why he uses the computer at the Montopolis neighborhood Center, he commented that it was only because his mother left him there all day. Otherwise, he said, he would never have learned to use the Internet. He also added that he didn't plan on using a computer at his job after high school. His reasons were that none of his family members use a computer in their jobs. The world that he's exposed to everyday has shown him that he doesn't need to use computers or the Internet in order to buy nice clothes or fancy cars.

As the above case clearly indicates, there is a gap between the perceived role of computers in this boy's life and what the trends discussed for the coming Information Economy seem to indicate will be the role of information technologies for the next generations. "Kids on the East Side (of Austin) use the Internet for entertainment based images more than information based images because their exposure to the Internet is purely an extension of the other media (television, movies and radio) in their lives. The East Side culture has not embraced the technology as an information resource."<sup>12</sup>

The awareness that technology is not only a source of entertainment but also a powerful tool for information retrieval and communication seems to be still elusive for many of the teens and pre-teens observed and interviewed in this preliminary study. Not unlike complex communication skills found by Burleson, Delia and Applegate (1995) to be the result of socialization with parents who already possessed these skills, awareness, access and use of

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<sup>12</sup> Kerstin Wiggins, Report to RTF 365 class project, observations at Montopolis Community Center, July 7, 1999.

information technologies such as the Internet, not only for entertainment, seems to be impacted by users cultural capital. Perception of the role and function of the Internet and not only access are key to diminishing the Digital Divide. The presence of an Internet counselor or helper at access sites would certainly increase access and also open the range of possibilities for the users to gain a more precise understanding of the potential of the Internet.

One researcher observed that “None of the kids interviewed or observed while at Montopolis felt that computers played a big role in their lives. None of them felt that computers or the Internet would enhance their futures by providing skills needed for a job. They don’t see their parents or peers using computers in their daily lives. There is no parental encouragement to use the Internet as a tool for enhanced learning. The Internet intimidates most of the parents of the kids. The schools aren’t encouraging it’s use because they don’t have the funds to supply enough computers in the classrooms.”<sup>13</sup>

The lack of cultural capital among parents impacts the ability of many young users to evaluate the potential of this medium. A more directed form of access is needed, in which user guides, and/or training and mentoring at libraries and centers could be used to stimulate Internet use both in general and for particular tasks. This could potentially reduce the gap generated by differing forms of cultural capital in minority and low income communities.

## CONCLUSIONS

The growth of Internet usage at public libraries and community technology centers has happened quickly and will continue to increase. The demand we observed across age, gender, and ethnicity in East Austin is an indication that as public access becomes available in libraries and community centers, it will be sought out by people in minority and low income communities. Utilizing available resources efficiently should become an even stronger priority for libraries and community centers.

The libraries and community centers observed are providing an excellent service to members of their communities that otherwise would not be available. Many people who are learning about the Internet and its capabilities are doing so as a direct result of having the Free-Net computers available. The challenge for Free Net, the libraries and community centers will be how to help people make better use of the resource, as well as expanding the physical access in terms of more computers and connections. Discussions with Free-Net directors, like Ana Sisnet, show that they are very aware of this need. What they need is both more volunteer help

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<sup>13</sup> Ibid.

for training would-be users and more money to hire people to expand this process to meet the demand.

Giddens (1986) emphasizes how institutional structuring tends to play out in the enactment of daily routines. In East Austin, we observed some remarkable institutional and structural success stories. The Carver Public Library, in a predominantly African-American neighborhood, has clearly become a community center that attracts children, introduces them to both Internet and books, lets them work in groups, and makes them feel comfortable and welcome. The routine of the library has become the routine and structure of a friendly neighborhood center. The classic routines of the library have evolved but not broken. People still have to behave; and for pre-teens and teenage girls, that routine is comforting.

Problems do exist at both libraries and centers. There were both physical structuring and social structuring problems at several of the libraries. Spatial layouts varied, with newer facilities typically being more Internet friendly. Use of computer resources varied in terms of dedication to traditional library book cataloguing versus software or Internet access for patrons. Currently there are state-of-the-art computers in each library that sit unused while patrons wait to log onto the Internet. The underused “catalog” computers or new computers would be a good resource to help several libraries meet the demand of increased Internet usage. Staff attitudes varied in terms of whether they saw public Internet access as an uncomfortable new responsibility or an opportunity to pull computer oriented pre-teens into an environment where written words were important, whether on-screen or printed.

Like libraries, community centers are good places to get started using the Internet. But to get the full benefit of the Internet potential, more computers allowing longer access times, better training, and more help desk services are needed.

Many patrons could be much better served if they had more instruction about how to access information on the Internet. Additionally, Internet instruction classes are not always promoted and therefore not always widely attended. Librarian training on Internet assistance is an issue that will be even more important to resolve. Planning for the future of libraries, community centers and Austin Free-net needs to include someone on-site that can give help when needed. This additional assistance would contribute substantially to the disadvantaged members of this community. They still lack cultural capital to use the Internet, lack appropriate Internet access time, and need increased understanding of the Internet’s potential for their lives.

In particular, there needs to be more study of issues about problems in the cultural capital available to many minority community members who don't yet feel comfortable walking into a library and confidently using the Internet, particularly if little help is available. In our observations, pre-teens were often willing to compensate for this by simply getting on the machines and playing around until they figure things out, but many others among teenagers, adults and the elderly are not so willing to experiment with technology without help. What do people need to know before they can walk up to the machine and imagine a productive or enjoyable use for it?

As Claude Fischer (1985) anticipated, thinking ahead about the role of technology in our daily lives:

“...We cannot assume that people use a technology because ‘it is there’ or because it is ‘obviously’ advantageous, nor because they have been ‘brainwashed’ to buy it, nor because they have been swept along by a cultural ethos. Nor will they necessarily use it as it was designed to be used. We need to ask how and why purposeful actors choose to adopt specific technologies and what they do with them.”

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