

**On Ramps to the Information Highway
in Wards 6, 7 & 8**

**Final Report
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EXECUTIVE SUMMARY

Few technologies have spread as quickly, or become so widely used, as computers and the Internet. Over the last decade these technologies have become a common fixture in many American homes and the American workplace. However, the spread of personal computers is by no means uniform. There are significant disparities in ownership and use by age, race and economic status. To address these disparities, a wide variety of local agencies have risen to the challenge of providing residents with access to information technology. In communities across the country, schools, libraries, churches and human service agencies work to bridge the digital divide by providing hardware, computer training and often, free access to the Internet. Unfortunately there is little known about the spread of these varied sites or their success at bridging the divide. To gain a clearer understanding of the availability and use of information technology in local communities, the Urban Institute conducted a study of public computer access in three areas of the District of Columbia. Below are six key findings from this effort.

- Over half of the 328 agencies in the sample (53 percent) provide some form of public access computing. Many of these services were limited, however, with modest resources.
- Experience with the provision of community computing services is quite limited. Over half of these agencies (61 percent) reported having less than three years of experience providing computer access, and 60 percent of the agencies had fewer than 10 computers available for public use.
- Schools and non-profit, human service agencies account for 79 percent of the public access computing sites in the three areas. About 45 percent of all human service agencies surveyed said that they provided some access to computing resources.
- Schools, by far, have received the greatest technology investment for the communities in the survey area. There were more than 3,000 student use computers in the 58 schools compared with approximately 620 public access computers in 79 human service agencies and 290 public access computers in 29 local churches.
- Comparisons across the various community programs reveal significant technology investment gaps for certain populations. Elderly services and job training programs have very limited computer service capacity.

The wide variety of agencies providing computer access to people in Wards 6, 7 and 8 are a foundation on which to build a strategic community technology intervention. These agencies provide entry points for District residents to build job skills, search for valuable information resources on-line, and improve their standing in the labor market. While many of these agencies have the equipment necessary to mount basic computer training, a great deal of planning and coordination is necessary to assure that these local investments yield significant returns for community residents. The study highlights the need for targeted program investment, coordinated training and services, and alternative staffing strategies for technology support. A set of recommendations are listed for service providers, government, and philanthropy, for improving public access computing in the District of Columbia.



INTRODUCTION

Information technology (IT) is rapidly changing our economy and our society. It is changing how we live, work and communicate with one another. Few technologies have spread as quickly, or become so widely used, as computers and the Internet. IT has become a common fixture in many American homes and the American workplace. According to the U.S. Census Bureau, over 56 percent of all occupations require some use of computers.¹ Use of computers and the Internet continues to grow. The rate of growth of Internet use in the United States is currently two million new Internet users per month.² There has been a precipitous rise in computer penetration rates in American homes as well. More and more households own a computer. A recent study issued by the Department of Commerce in 2000 reported that 54 million households (51 percent of all U.S. households) have one or more computers in the home, a 21 percent increase since 1998.³ Forty-two million households reported using the Internet in the home during the last year.

Despite these trends, many segments of American society remain isolated from recent technological advances. The Department of Commerce study reported significant disparities in computer ownership by age, race, and economic status. Among households with incomes of \$75,000 or more, 88 percent had a computer and 79 percent reported use of the Internet in their home. In households with incomes below \$25,000, 28 percent had a computer and 19 percent reported using the Internet in their home.

Racial and ethnic groups also reported significant differences in ownership and usage. Hispanic adults had the lowest penetration rates with 35 percent reporting a computer in their home, followed by African American adults with 37 percent owning computers. This is in sharp contrast with whites and Asians and Pacific Islanders who reported computer ownership rates of 61 and 66 percent, respectively. Older Americans had the lowest rates of computer ownership and Internet use, with only 28 percent reporting a home computer and 13 percent accessing the Internet from their home.

While these statistics provide important measures of the availability and use of IT in individual homes, they do not provide information on the public availability of IT services to the community as a whole. Such a portrait is sorely needed, particularly in resource poor communities where lower-income families may not be able to afford individual home computers. In resource poor communities, public, community-based organizations, such as schools, libraries and local human service agencies are often the principal places where local residents can access IT resources and training.



To gain a clearer understanding of the availability of information technology through local agencies in the District of Columbia, the Urban Institute conducted a telephone survey in winter of 2001. During February and March 2001, 659 community-based organizations in Wards 6, 7 and 8 were contacted by telephone. Of these, 328 groups completed the 15-minute survey. The respondents included 178 nonprofit human service organizations, 83 churches, 58 schools and 9 libraries throughout the three Wards.⁴ Following the telephone survey, site visits were conducted with a sample of agencies that provide computer services to local residents. The field protocols for these visits asked program managers to identify some of the principal challenges in the design, start-up and maintenance of their computer service programs.

This report summarizes key findings from the various stages of the computer access study. The first section of this report highlights findings from the telephone survey of agencies in Wards 6, 7 and 8. It identifies the types of agencies that are providing computer access, the types of resources available and which population groups are targeted for services in these communities. Section two merges survey data with the 2000 Census data to examine the dispersion of computer access sites relative to several target demographic groups. The third section discusses lessons learned by agency directors and program managers about the delivery of computer services. The final section presents recommendations to service providers, local government and the philanthropic sector.

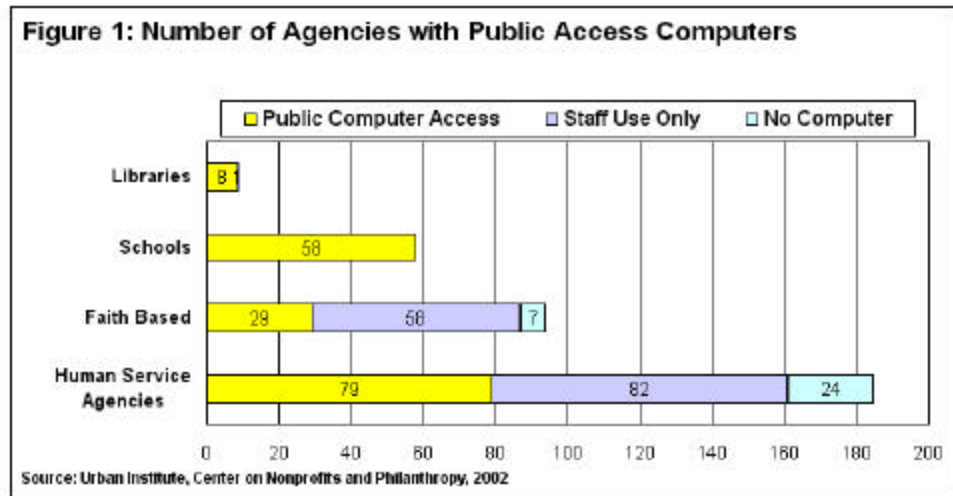
COMPUTER ACCESS THROUGH LOCAL AGENCIES

Computer access facilities were defined broadly in this study in an effort to build a comprehensive list of community resources in the three Wards. For the purposes of this study, a public access computing facility is defined as any agency that has one or more computers available for direct use by community residents. Within this category, public access facilities range from agencies that have no dedicated computer service staff and only a few machines for clients or local residents to agencies that have full-time staff supporting community technology centers with a range of programs and training.

Using this broad definition, public access sites are abundant in Ward 6, 7 and 8 community agencies. Overall, 174 agencies (53%) had some form of public access computing available. Many of these services are quite new, however, and have limited resources. Over half of these agencies (61 percent) reported having less than three years of experience providing computer access, and 60 percent of the agencies had fewer than 10 computers available for public use.



Schools and human service agencies account for 79 percent of the public access sites in the area. All 8 of the public libraries surveyed have computers available for residents, as do 29 local churches (see figure 1).⁵ About 45 percent of all human service agencies surveyed said that they provided some form of public access computing. Thirteen percent of human service agencies in the study had no computers even for their own staff.



HARDWARE AND INTERNET CONNECTIONS

Although specific questions regarding the vintage of hardware and software were not asked, many agencies appear to have the basic resources necessary to provide a broad range of IT training and services. Of the agencies that provide public access, 97 percent reported having word processing applications, 97 percent reported having printers, 95 percent reported having CD-ROMS, 89 percent reported Internet connections; and 81 percent reported having networked facilities. These percentages are consistent across the four types of agencies with two notable exceptions. Fewer public access sites in faith-based facilities reported having Internet access (67 percent) and these groups also were less likely to have networked their public access computer facilities (64 percent).

ACCESS FOR WHOM?

Agency representatives were asked to identify which members of the community could use the public access computers. These responses were grouped into two categories: (1) public access for anyone on a walk-in basis, and (2) limited access for clients, students, or members. The responses to these questions highlight important differences among the four types of agencies

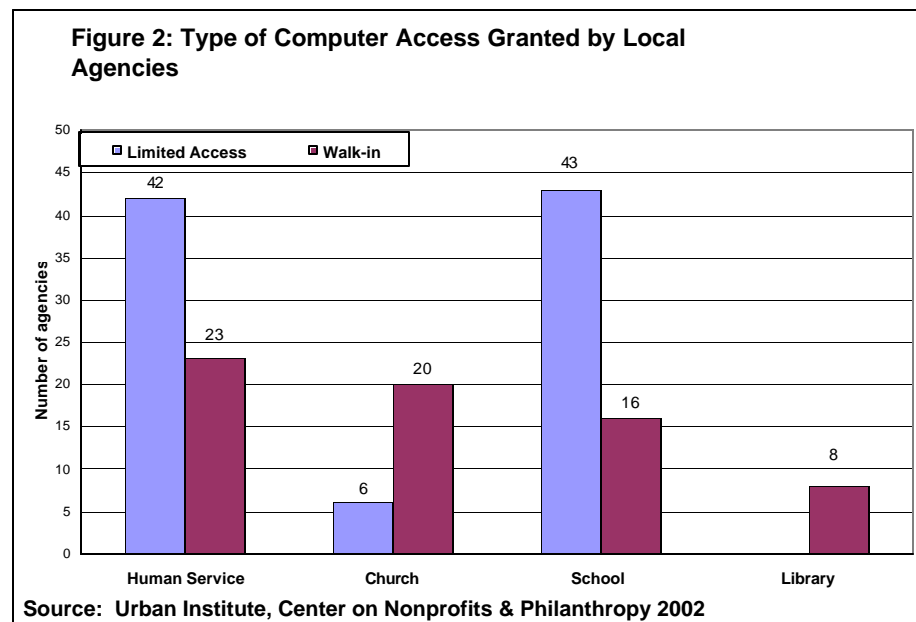


(see figure 2). Community-based human service organizations and schools were much more likely than churches or libraries to restrict access to their computers.

Two-thirds of these groups (42 community-based organizations and 43 schools) had policies that limited access to clients and students. Although relatively few churches in these Wards reported having public access computers, those that did provide this service were three times more likely to provide computer access on a walk-in basis than on a restricted basis (20 versus 6 churches, respectively). All of the public libraries surveyed reported the provision of general, walk-in computer access for community residents.

Schools, by far, house the largest number of computers in these three Wards. There were more than 3,000 computers in the schools that responded to the survey, compared with

approximately 620 computers in human service agencies and 290 computers in local churches. Libraries accounted for 49 computers in these communities. In total, there are about 4,000 public access computers, but many of these machines are restricted to particular groups or only available during



limited times. Three-quarters of these machines (76 percent) are found in schools, where the majority of students are likely to access the computer once a week or less, if they follow national patterns.⁶ Among nonprofit agencies, the majority of the computers, approximately 400 of the 620 total, are restricted to clients enrolled in programs. Relatively few of these machines are available on an open, walk-in basis.

COMPUTER ACCESS ACROSS THE HUMAN SERVICES

Given that many of these machines are restricted to students in schools and clients of agencies, it is appropriate to examine how public access computing intersects with community-based



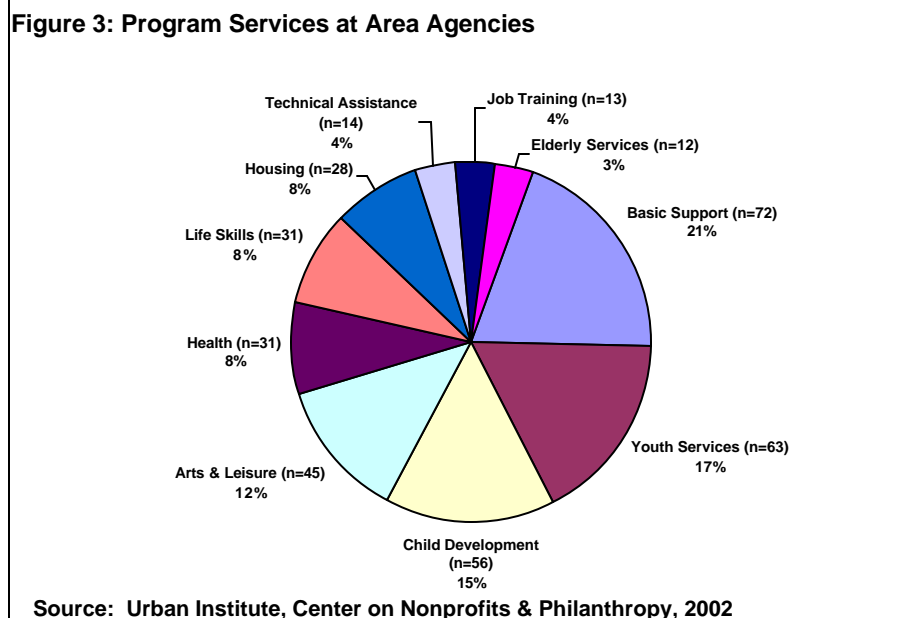
program services. Based on our telephone interviews, we identified 365 programs in the three Wards. These programs were coded into 10 distinct program categories (see figure 3). The three largest service categories were basic support/emergency services (72 programs), youth services (63), and child development (56). The categories with the least number of programs were technical assistance (14 programs), job training (13) and elderly services (12).⁷

Although the basic support category, which includes food and clothing distribution and emergency bill assistance, is the largest single service category, a high percentage of human service programs target children and youth. Child development and youth programs, coupled with some arts and recreational

programs geared toward children and youth, account for 141 programs or 39 percent of the identified programs in the study. This emphasis on children and youth programming may reflect the demographic composition of the area. Almost half of

all children in the District of Columbia live in Wards 6, 7 and 8. In contrast, there are relatively few job training and elderly services, despite the approximately 29 percent of the District's unemployed residents and 34 percent of District's elderly that reside in these three Wards.⁸

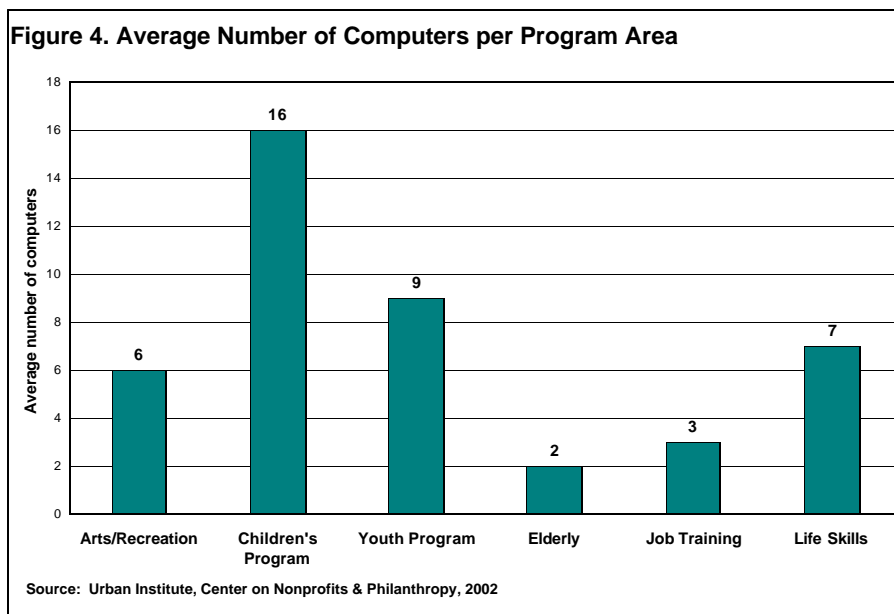
To explore how computer resources are distributed across various programs, we focus on six program areas—arts and recreation, child development, youth programming, elderly services, job training and life skills. Although respondents were not asked if programs incorporate IT as a component of their service delivery, the presence of public access computers in the agency can be an important resource for clients and staff, particularly in the areas of job training, child and youth development, and education.





We calculated the average number of computers available for each program area by adding the number of public access computers in agencies that offering a particular program and then dividing that number by all agencies working in the same program area.⁹ The results are shown in figure 4.

Agencies serving children and youth have the highest average number of computers followed by life skill programs and arts and recreation. It should be noted that a third of the Life Skills programs and more than half of the Art and Recreation programs are also directed toward children and youth.



A comparison across the various program areas suggests a much greater investment in technology for children and youth programs than adult service in non-school settings. Elderly services and job training programs are significantly under-resourced in comparison to children and youth services.

PUBLIC ACCESS AND THE COMMUNITY

To examine the distribution of computer resources by community need we mapped data from our survey with tract level demographic data from the 2000 Census. These maps compare computer resource sites and computers to the distribution of primary school children, youth, unemployed residents, and the elderly, population groups that might have a need for or benefit from public access computers.¹⁰

Computer Access for Young Residents

Households in Wards 6, 7, and 8 have a very large share of the District's children and youth. Although the total population for the three wards accounts for one-third of the District's



residents, almost half (46 percent) of the District's 81,456 school age minors lived in these three wards according to Census 2000. Many of these children live in poverty. According to a recent DC KIDS COUNT report (January 2002), half of the children in the District who receive food stamps live in Wards 6, 7, and 8, as do 62 percent of children who receive TANF assistance.¹¹ For this study, we have concentrated on two groups of minors: those of primary school ages (5-12 year olds) and those of secondary school ages (13-17 year olds). Each of these groups was mapped separately. Centers and programs that have public access computers for these age groups are identified on each map.

Map 1 shows 13 of the 64 census tracts in the study area having more than 600 children ages 5-12. Most of these high child density areas are found in Wards 7 and 8; only one tract falls within Ward 6. As the map also shows, computer resources are generally well distributed across the three wards, but there are areas in which computer access is very limited or even nonexistent. In the Congress Heights area, for example, there were no public use computers identified. Likewise, in the Berry Farms community there are only a few computers at the fringes of these neighborhoods. Overall, the study identified 58 agencies that provide public access computers to children ages 5-12 in these areas. Although the number of sites is large, the majority of these sites (55 percent) have fewer than six computers. Six sites, however, have more than 25 computers that can be used by young children on-site.

Looking at public access computer services for teens (ages 13-17) provides a somewhat different picture (Map 2). Nearly 40 percent of the 17,053 teenagers (ages 13-17) in the District lived in Wards 6, 7, and 8 in 2000. These young people are particularly clustered in Ward 8, where 7 census tracts each had more than 150 teenagers. Our telephone survey found fewer community-based organizations that provide public access computers for teens (48 agencies) than for younger children (58 agencies), but on average, there are more computers per facility. The majority (54 percent) of the agencies that have programs for teens had 6 or more computers available. On average, there are 14 computers per nonprofit agency—a relatively small number, given the popularity of computers and technology among teenagers.

Maps 3 and 4 provide yet another view of the availability of computers for young children and teens in Wards 6, 7, and 8. The image on the left of the page represents the number computers in non-school settings (nonprofits, churches, libraries and recreational centers) and the image on the right represents the same geographic area counting available public access computers in schools. To depict the density of computers in a geographic area, each dot on the map represents two computers in the census tract, not the actual location of the computers.



These maps illustrate the differential computer investments that have been made in local schools versus other points of service for young children and teens. In Map 3, the average number of computers per non-school site is 5 machines, compared with an average of 45 open access machines for students in primary schools. Similarly, in Map 4, non-school sites averaged 5 machines, compared with an average of 80 open access computers in secondary schools. These dramatic differences reflect the significant investments made through federal and local programs. In 1998 alone, D.C. schools received over \$5 million in E-Rate funds.¹²

The scarcity of computer resources in non-school settings is a measure of the community's ability to provide computer services to children outside of school. The computer resources identified in these non-school sites are among the principal resources for students seeking help in the afternoons and during the summer months. These centers provide a broad range of opportunities for young people to become engaged in computer assisted learning. Indeed, recreation centers, boys and girls clubs, and libraries are among the few places in which young people can explore what computers and the Internet offer outside of a structured academic environment. However, there are relatively few non-school sites with public access computers. This, coupled with the limited service capacity of many of these agencies means that young people in Wards 6, 7, and 8 may find it a challenge to get computer access close to home.

Computers and the Unemployed

The recent economic downturn has caused the District's unemployment rate to climb. The February 2002 seasonally adjusted unemployment rate of 6.8 percent is the highest since March 1999.¹³ While these numbers provide an important picture of unemployment in the District as a whole, they do not capture the variation that occurs among residential neighborhoods. In the 1990 Census, for example, there was a difference of 11 percentage points between the Ward with the lowest unemployment rate (Ward 3) and the Ward with the highest unemployment rate (Ward 8).

Using data from the latest release of Census 2000, Map 5 represents rates of unemployment by tract for men and women ages 20 – 59. The darkest shades on the denote tracts with the highest number of unemployed individuals and maps them against the placement of job training programs. As noted above, job-training programs, on average, have far fewer computer resources than other types of programs. Despite the limited availability of public access computers within organizations that provide job training, the availability of computer access sites close to these job-training programs can be seen as an opportunity for joint programming with



other community agencies. All 8 of the agencies that lack computer access for their clients are within a half-mile of human service agencies that have public access computing services (see Map 5).

Elderly and the Digital Divide

The digital divide is quite pronounced for older Americans compared with younger age groups. According to a May 2001 study by Jupiter Communications, less than 16 percent of Americans age 65 and older use the Internet. In contrast, 32 percent of elementary school-age children, 55 percent of teenagers, and 94 percent of college students are on the Net. The national average for Internet use among all Americans is 44 percent. Other research studies commissioned by Intel (1996) and SeniorNet (1998), as well as data from the U.S. Department of Commerce, show a similar pattern of limited computer use by seniors (see Map 6).

Although the “gray divide” may ease somewhat as the baby boom generation begins to turn age 65, many current elderly could benefit from computer skills to access information on services, order prescription drugs on-line, or ease feelings of isolation and loss by communicating with family members and friends who live far away. One-third of the District’s senior population resides in Wards 6, 7, and 8, giving this geographic area a significant cluster of older residents.

Despite the number of seniors in these three Wards, our survey identified only two senior centers in the area provide public access computers (see Map 6). Both centers are in Ward 8 and had a total of 36 machines. A few senior centers or senior-serving agencies are in close proximity to other community-based organizations with public access computers, but most senior centers are located away from facilities with public access computers. Although libraries and local churches might provide older residents with public access computers, these sites generally do not provide training and support geared specifically toward the older population.

WHAT PROVIDERS SAY

The distribution of hardware provides one measure of the penetration of computer technology in area agencies, but it is also important to examine how computer resources are put to use. How do people become aware of computer services? How are resources garnered by individual agencies? How do agencies support their computer services over time?



To address these questions the research team selected a sample of agencies for in-depth interviews with agency directors and staff, and a focus group of computer users. Field research was conducted during September and October 2001. The field work was not designed to assess program impact, but as an effort to tease out lessons that can be used by current and prospective computer access providers and funders considering sponsoring these types of program services. Given this goal, we chose a purposive sample rather than a random sample.

We had two principal objectives in selecting sites. First, we wanted sites that had provided public access for a long enough period of time that we could reasonably expect them to have stable programs and faced a number of challenges. We therefore limited the sample to sites that had established public access services for more than one year. Second, we wanted sites that were moderate in size to reflect the mid-range of public access computer facilities. All of the agencies selected for in-depth study had between 5 and 25 public access computers.¹⁴ Third, we wanted the sample to broadly represent the types of agencies that self-identified as providing public access computers in the telephone survey. Based on these criteria, 15 agencies were selected with varied age, size, and program areas. Of these agencies, 8 were walk-in sites and 7 were restricted access sites. Below are the key findings from the site visits and focus group discussions.

- **People access technology through the service programs they attend.**

According to providers and individuals using the computer services, relatively few people said that clients go to service providers with the *a priori* intent of gaining computer services. People “attach” to computer services through core human service programs, according to the directors and staff of these agencies. Indeed, few users knew that computer services were available before stepping foot into the agencies. Most of the people we spoke with approached the agencies for other human services programs and then learned about computer services in the process. Children get acquainted with computers through local tutorial programs, adults through job training, life skills and other human service programs. Computer training is typically an ancillary service to the agency’s core activities. As in many other human service activities, people received internal program referrals. Word of mouth was a very important referral source for those people that did approach the agencies for computer services.

- **Some agencies find it difficult to coordinate IT services with other providers.**

Service coordination across agencies is often difficult to do well. Even under the best of circumstances, relationships between agency staff can be difficult to secure and maintain over a



sustained period of time. One site illustrated this problem quite clearly. The director of an after-school technology program talked about how her services have shifted to accommodate changes in the public school system. Five years ago, the agency had developed an innovative strategy to coordinate the program's services with the curriculum of the two schools in her community. "At that time, it was a lot easier to coordinate with teachers. Staff would visit the schools and volunteer during the day to keep abreast of the week's lesson plans." However, with the advent of new charter schools in the community, the program is now receiving students from 7 different schools. Program staff simply cannot keep pace with the varying schedules and lesson plans.

- **There is a tremendous lack of knowledge regarding current computer services among agencies seeking technical support and individuals seeking training.**

Despite the relatively large number of access sites identified through the Urban Institute's telephone survey, individuals working at agencies that provide computer services were not familiar with other sites that also provided public access computing. This was the case for all but two of the sites visited in our sample. Moreover, few individuals had heard about the technical assistance programs that have been created over the past several years to provide IT assessments and support for D.C. agencies. This lack of awareness of community resources extended to clients as well. Clients who had gained access and training through computer service programs at one agency were not familiar with computer programs at other sites and had not sought access through other agencies.

- **The vintage of an agency's hardware has an impact on services to clients.**

Few of the agencies that we visited received funds explicitly for the establishment of technology centers. For many, IT services for clients grew in a helter-skelter fashion as new hardware, software, and staffing became available through donations from private individuals or corporations or government funding. Agencies with programs that expanded through this type of support often had computers with widely varying processor capacities. This, in turn, affected the ability of some agencies to run a stable network, share computer applications across machines, and perhaps most importantly, to work with several clients simultaneously in a class-like setting. In some cases, agencies maintained separate networks for older and newer machines. Despite the availability of new and faster machines, some agencies are reluctant to get rid of old machines for a variety of reasons. In some cases, lesson plans were developed for applications on the older



machines. In other cases, agencies did not have the time or expertise to manage two or more operating systems and the growing library of software.

- **Support for IT services tends to be “front-loaded.”**

Those agencies that did receive direct financial support for computer services from foundation or government investments tended to focus on hardware acquisition and other aspects of program start-up. However, agency directors repeatedly said that their IT investment required a great deal of maintenance and upkeep. Agencies found it hard to secure funds to support the infrastructure needs of existing programs. As a result, few agencies that we visited had plans to update hardware on a regular basis. Most of them worked with the hardware and software acquired in the early stages of a program.

- **Paradox of access: agencies find it difficult to provide IT training services at little or no cost; residents are reluctant or unable to pay.**

Many of the agencies that we visited provide computer training and access at no cost to users—a practice that is difficult to sustain over time. In an effort to defray the cost of maintaining computers and retaining qualified staff, some agencies have adopted a modest fee structure for computer use and training. However, for some agencies this attempt to secure revenue for computer service programs simply did not work, given their client base. In the words of one service provider, “We’re basically stuck. We can’t afford to offer the classes for free, and the clients are not interested or not able to pay for computer training.”

- **IT labor shortages pose a tremendous problem for agencies.**

Few of the agencies in this sample have the capacity to sustain labor intensive IT programs over the long term. As a result, several agencies reported that they are unable to broaden access because of labor constraints. Several respondents noted that the need for more and well-qualified staff was even greater than the need to update or purchase new hardware and software. However, despite the widespread shortage of qualified staff, few agencies shared IT staffing expertise. Many agencies relied on one individual from their own staff who had the interest or skill to manage the computer facility but lacked formal IT training. These staff members were often drawn away from other program areas to fill the gap in IT needs.



- **Providers are hindered by lack of high speed access.**

Agencies east of the Anacostia River do not have access to DSL and other technologies for high speed Internet connectivity. Currently, these agencies access the Internet through dial up modems. Using this slower form of Internet access has a direct affect on the agency's ability to use new teaching tools and the full range of on-line resources available for nonprofits.

NEXT STEPS: LOCAL ACTION FOR BRIDGING THE DIVIDE

Over the last 6 years, many agencies across the country have begun providing computer access to low-income residents. The awareness of the digital divide coupled with the precipitous drop in the cost of computer equipment opened the door for many more local agencies to purchase needed equipment and become technology service providers. There is also evidence that low-income people are using IT resources in beneficial ways. A national survey of community technology center users conducted in 2000, found that users accessed computing centers primarily to improve job skills in times of economic uncertainty.¹⁵ Among people using the Internet outside of the home, for example, in community centers and libraries, an estimated 2.7 million (32 percent) were using it to take courses, and 4.3 million (50 percent) used the Web to search for jobs.¹⁶

The growing number of agencies providing some form of computer access to people in Wards 6, 7 and 8 is consistent with this rising national trend. These agencies are providing entry points for District residents to build job skills, search for valuable information resources on-line, and improve their standing in the labor market. The Urban Institute survey identified 159 local agencies in Wards 6, 7 and 8 that provided local residents with computer access in an array of locations and settings. Many of these agencies have the equipment necessary to mount basic computer training, such as keyboarding, computer literacy, and Internet skills, however there is no systematic investment in new hardware and software or in staff training to maximize this investment in technology. Staffing requirements and demands for maintaining or updating hardware and software pose significant challenges to area computer service programs. Indeed, based on interviews with local agency directors, it appears that some providers have pulled back from their early, more ambitious, program plans and now provide more limited computer and technology services.



Apart from staffing and other resource constraints, the study identified a need for better coordination and marketing of current services. Few of the agencies in the study knew of other computer service providers in their community. Some of these information gaps can be explained by agency resource constraints. Because program staff often have heavy workload demands, they may not have time for this type of labor intensive information gathering. The task is made even more difficult because some agencies are reticent to advertise their services for fear that they will not be able to keep up with increased demand for services.

The findings of this study highlight both the challenges and opportunities for those who are working to improve computer services in the neighborhoods of Wards 6, 7 and 8. Based on these findings, a list of recommendations for service providers, government, and the philanthropic community are given below.

RECOMMENDATIONS FOR SERVICE AGENCIES

➤ Let them know you are there.

Agencies should work to fill information gaps and help residents identify and access computer services in their geographic areas. It is incumbent upon local providers to announce their services through available public channels including the District's Answers Please! system, the Benton Foundation's on-line Digital Divide Network database, and through neighborhood community information networks such as the *East of the River* magazine, local churches, and area schools.

➤ Build on the existing infrastructure.

The study identified a range of hardware and software available at community-based public access computer facilities, but it also found problems of outmoded and insufficient technological investments. Some local areas have no public access computer services; others have very limited access. The types of programs and services that can be offered to local residents are affected by this physical infrastructure. Community-based agencies can use the study's list of local service providers to identify current resources, potential needs, and gaps in existing services to help plan and strengthen the IT resources that are available in Wards 6, 7, and 8.

➤ Coordinate services with other providers.



Although there are a number of sites that have the hardware necessary to provide a broad range of services, these agencies often lack the staff to provide a full range of services. Several program managers said that they had rushed into offering computer services without having done a scan of extant local providers and without having a clear idea of how labor intensive computer service programs can be. The list of agencies identified in this study provides program managers with a tool to better coordinate and use resources in their local areas. Several scenarios can be envisioned. One option might be to coordinate the types of services offered by nearby agencies. For example, an agency with basic computer resources might provide introductory level computer training and another agency with greater capacity might offer more advanced training or a certification program. Another option might be to share resources. Agencies that lack sufficient resources to hire full-time staff, for example, might share the services of one individual who would provide program or technical support to several nearby agencies. A third option might be to pool resources to leverage buying power. A group of providers might be able to negotiate more favorable terms when buying hardware or contracting for technical support than a single organization.

➤ **Extend computer services to a wider range of clients.**

New clients can be served by broadening current programs and by better utilizing current sites. There are many examples of computer projects that can serve as models for developing programs to serve a broader cross-section of residents. One such program is Iowa's "Intergenerational Internet" project. This project connects young people and older residents by providing a service learning opportunity for middle school students to teach Internet technology to seniors by using school computer labs with Internet access.¹⁷ In the District, a new agency called Digital Sistas connects female professionals with young girls interested in learning more about technology.

➤ **Attract adults to computer services through core human service programs.**

Children appear to be the only demographic group that explicitly seeks out opportunities for computer access. Almost all of our adult respondents at local agencies said that they got involved in computer projects at the agency because agency staff introduced them to these programs. This finding is consistent with the results of a national survey that found 57 percent of non-computer users saw little benefit to computer use and had no plans to go on-line.¹⁸ This finding has direct implications for the way in which local agencies market and design computer service programs. If the benefits of computer training are not evident to non-users, then computer classes,



established as separate programs, are unlikely to attract these individuals. Agencies hoping to provide basic computer training to a broad cross-section of clients should consider incorporating basic computer training as a routine part of their core human service programs, such as youth development, job skills, or English as a Second Language (ESL) training. An introduction to computers through traditional programs might encourage clients to pursue further technology training.

RECOMMENDATIONS FOR GOVERNMENT

➤ Inform residents of IT resources in their area.

The District's Answers Please! information and referral system, established in 1998, provides a platform for informing community residents of computer service sites identified through the Urban Institute telephone survey. Although the data from this study have been given to the Answers Please! office, the information will have to be routinely updated and maintained to be of use for years to come.

➤ Invest in sites that maximize access.

The city has made a considerable technology investment in primary and secondary schools, and there is evidence that this investment is having an impact on computer literacy rate and Internet use by D.C. children. However, there are other sites that would be well served by such public investment. As the geographic analysis showed, there are recreation centers in areas with high concentrations of youth that could serve as IT sites. Computer labs like the one found at the Kenilworth Garden recreation center in Northeast can provide computer access to youth after-school and during the summer months. The city should also consider greater technology investments in libraries and other sites that are open to a broad set of children, youth, and families during the day, after school, on weekends, and over the summer months.

➤ Broaden the scope of the District's IT planning initiatives.

Considerable strides have been made by the city's Chief Technology Officer to update electronic services within government, streamlining information systems, and making a number of government functions more accessible to District residents. Other city officials have focussed on the private sector. Council Member David Cantania's DCTech2000 legislation provides significant tax incentives for businesses to locate within the District and hire District residents.



These efforts are important, but they fall short of a comprehensive approach to the District's technology needs. For this goal to be realized, many more stakeholders will have to be included in the planning process. The District would be well served to draw upon the experience of cities such as Seattle and Boston that have developed comprehensive plans by examining the communication infrastructure for residents, schools, libraries and health care facilities, along with the needs of government and the private sector.

RECOMMENDATIONS FOR THE PHILANTHROPIC COMMUNITY

➤ **Support IT technical assistance for nonprofits, but also plan for the next stage needs.**

Efforts to support centralized IT support technical assistance centers are an important first step in helping nonprofit agencies with their current technology needs. The high demand for services from Technology Works for Good and the Potomac Technology Empowerment Center and others speaks directly to the need for technology support for local nonprofits. While technology circuit riders and other roving technical assistance projects are doing their best to support the needs of local agencies, these support mechanisms are not likely to meet demand over time. The growth of the technology support industry in the private sector foreshadows what is likely to happen in the nonprofit sector. Much like the private sector in the 1990s, the nonprofit sector is currently undergoing a technology revolution. Throughout the sector, nonprofit agencies are adopting new data management systems, automating budgeting and financial procedures, and placing greater reliance on electronic communication. And like the private sector, the increased technological capacity of the nonprofit sector is likely to result in greater dependence upon trained IT staff and support. If this is the case, circuit riders and other centralized technical assistance initiatives are a temporary fix for staffing problems that are likely to grow over time.

➤ **Link computer service support to existing human service programs.**

The variation in computer resources across program areas coupled with the finding that new adult users "attach" to computer training through traditional programs raises important questions regarding the support and planning for new technology initiatives. Because many non-users do not see the value of computer training, they are unlikely to seek out such training unless it is a part of an affiliated program. The establishment of freestanding computer centers, therefore, is not likely to address the needs of this population. Community investments aimed at providing basic computer literacy should consider accessing target populations through core human service programs rather than supporting separate training programs. Foundation staff should also



consider making new or additional investments in programs identified as having the fewest technology resources, such as job training, health education, and elderly services.

➤ **Support initiatives that will help local agencies maximize current IT capacity.**

A number of initiatives could be developed to maximize public access computer resources in the District. Staff training, technical support, and hardware upgrades were repeatedly identified as the major needs of local agencies. Peer-to-peer (technical) learning groups at various levels within an organization would be one mechanism to build staff capacity within local agencies. Foundations could also support shared IT or computer program staff positions for those agencies that require more staff support but do not have a need for a full-time staff position. Finally, foundations could consider supporting cooperative agreements among agencies to facilitate an efficient use of current resources and to leverage new resources.



Notes

¹ U.S. Department of Commerce, *A NATION ONLINE: How Americans Are Expanding Their Use of the Internet*, February 2002.

² Ibid.

³ U.S. Department of Commerce, *Home Computer and Internet Use in the United States*, August 2000.

⁴ The overall response rate for the organizations in the three Wards was 49.7 percent. Nonprofit agencies with a national or international focus were not included in the sample.

⁵ Not all churches provide human services. These data are based on churches that provide social services.

⁶ *The Conditions of Education: 1998 Report*. In 1996, 64 percent of 4th graders reported using computers at school once a week or less, as did 67 percent of 8th graders, and 65 percent of 11th graders. The data are from the National Assessment of Education Progress (NAEP).

⁷ These data for program categories represent respondent identified programs, not individual agencies. A full list of program code categories is available in appendix A.

⁸ Ward-level unemployment is provided by the D.C. Department of Planning and is based on U.S. Department of Commerce data.

⁹ This estimate should not be seen as the actual number of computers available in specific programs. It is an estimate subject to error based on the reliability of respondent reports regarding the number of public access computers in their agencies and the degree to which the sample represents the overall population of human service providers in Wards 6, 7, and 8.

¹⁰ Data on the number of children, youth, and elderly residents were obtained from the 2000 Census SF1 early release files. The data for unemployed persons is drawn from the Census 2000 SF3 release.

¹¹ Base numbers for these percentages are the total number of children receiving TANF (31,530) and total number of children receiving food stamps (67,423) in the District of Columbia for 2001. Information was obtained from the Every Kid Counts in the District of Columbia, D.C. Kids Count Collaborative, January 2002, pp. 41

¹² On May 7, 1997, the Federal Communications Commission (FCC) adopted a Universal Service Order implementing the Telecommunications Act of 1996. The Order provides eligible schools and libraries affordable access to modern telecommunications and information services. Up to \$2.25 billion annually is available to provide eligible schools and libraries with discounts, often referred to as the "E-rate," for authorized services, beginning January 1, 1998.

¹³ U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics, <http://www.bls.gov/lau/home.htm>

¹⁴ Seventy-eight percent of agencies in the sample reported having between 5 and 25 computers.

¹⁵ Chow, Clifton, Jan Ellis, June Mark, and Bart Wise. *Impact of CTCNet Affiliates: Findings from a National Survey of Users of Community Technology Centers*. Newton, MA: Educational Development Center, Inc., 1998. Also available at <http://www.ctcnet.org/impact98.htm>. Results show that 65 percent of respondents took classes at a technology center to improve their job skills. Of the job-seekers surveyed, 43 percent said they had either gotten a job or were a lot closer to getting a job as a result of using the technology center.

¹⁶ U.S. Department of Commerce. *Falling Through the Net: Toward Digital Inclusion*. Washington, DC: U.S. Department of Commerce, 2000. Available at: <http://www.ntia.doc.gov/ntiahome/digitaldivide/>.

¹⁷ The project is designed so that there are six contact hours of teaching. The first session is a training session for the middle school students. After the first session, seniors join the group and for the next five sessions the seniors are partnered with a middle school student. Together, the middle school student and their senior partner navigate the Web, search for information on the Web, and send and receive e-mail. More information is available at: <http://www.intergenerationalinternet.com/index.html>.

¹⁸ Raine, Lee & Dan Packel. Pew Internet and American Life Project, Feb 18, 2001.

Appendix A: Program Categories of Community Organizations

<p>Job training/readiness</p> <ul style="list-style-type: none"> • ESL • Job placement • GED <p>Basic Support/ Emergency services</p> <ul style="list-style-type: none"> • Food • Clothing • Emergency bill pay <p>Housing/Shelter</p> <ul style="list-style-type: none"> • Shelter • Homeless services • Specialized residential facilities AIDS/Handicapped/Elderly <p>Health Services/ Health Education-Prev.</p> <ul style="list-style-type: none"> • Healthcare • Mental health services • Rehabilitation • Disability services • Substance abuse treatment • Public health awareness • HIV prevention/outreach <p>Child Development</p> <ul style="list-style-type: none"> • Child care • Head start • After school programs 	<p>Youth Development</p> <ul style="list-style-type: none"> • Tutoring • Mentorship • Youth ministries <p>Elderly Services</p> <ul style="list-style-type: none"> • Elderly ministry • Transportation <p>Arts/Cultural/Recreation & Leisure Music</p> <ul style="list-style-type: none"> • Theater • Dance • Sports • Park programs <p>Technical Assistance</p> <ul style="list-style-type: none"> • Legal services • Community Development • Tax assistance <p>Counseling/Life Skills/Social work</p> <ul style="list-style-type: none"> • Parenting skills • Abstinence program • Social services for incarcerated persons • Rehabilitation services • Adjudication services
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Source: Center on Nonprofits and Philanthropy, Urban Institute, 2002

Local Area Maps

Map 1. Distribution of Children (ages 5-12) and Computer Centers in Wards 6, 7 & 8

Map 2. Distribution of Teens (ages 13-17) and Computer Centers in Wards 6, 7 & 8

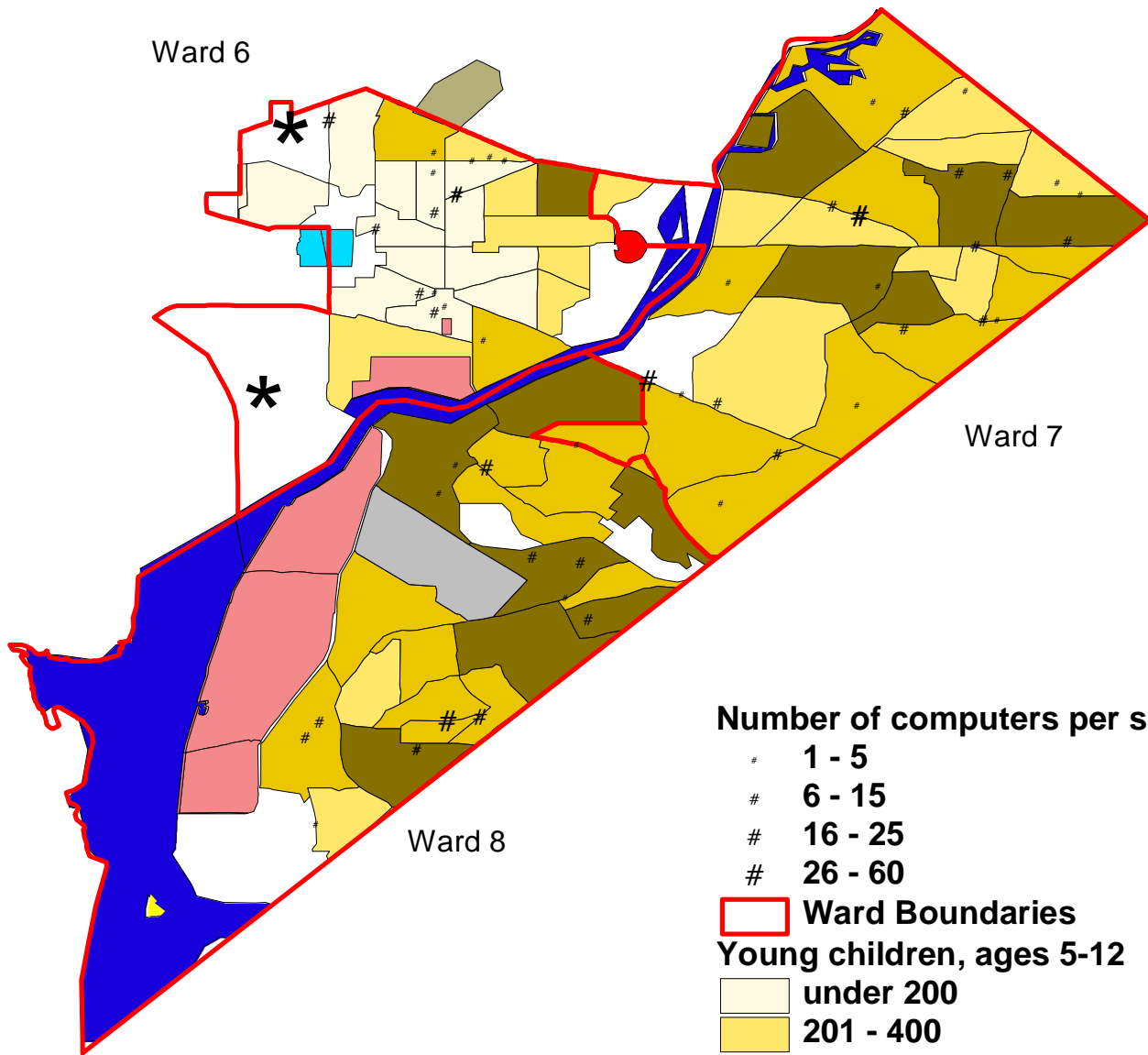
Map 3. Comparison of Neighborhood Computer Resource to School Computer Resources for Children (ages 5-12)

Map 4. Comparison of Neighborhood Computer Resource to School Computer Resources for Youth (ages 13-17)

Map 5. Estimates of Unemployed Men and Women and Centers in Wards 6, 7 & 8

Map 6. Distribution of Seniors with Service Programs and Centers

Map 1 - Distribution of Children (Ages 5-12) and Computing Centers in Wards 6, 7 & 8



Number of computers per site

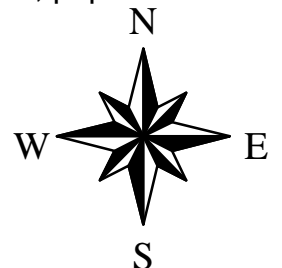
- * 1 - 5
- # 6 - 15
- # 16 - 25
- # 26 - 60

Ward Boundaries

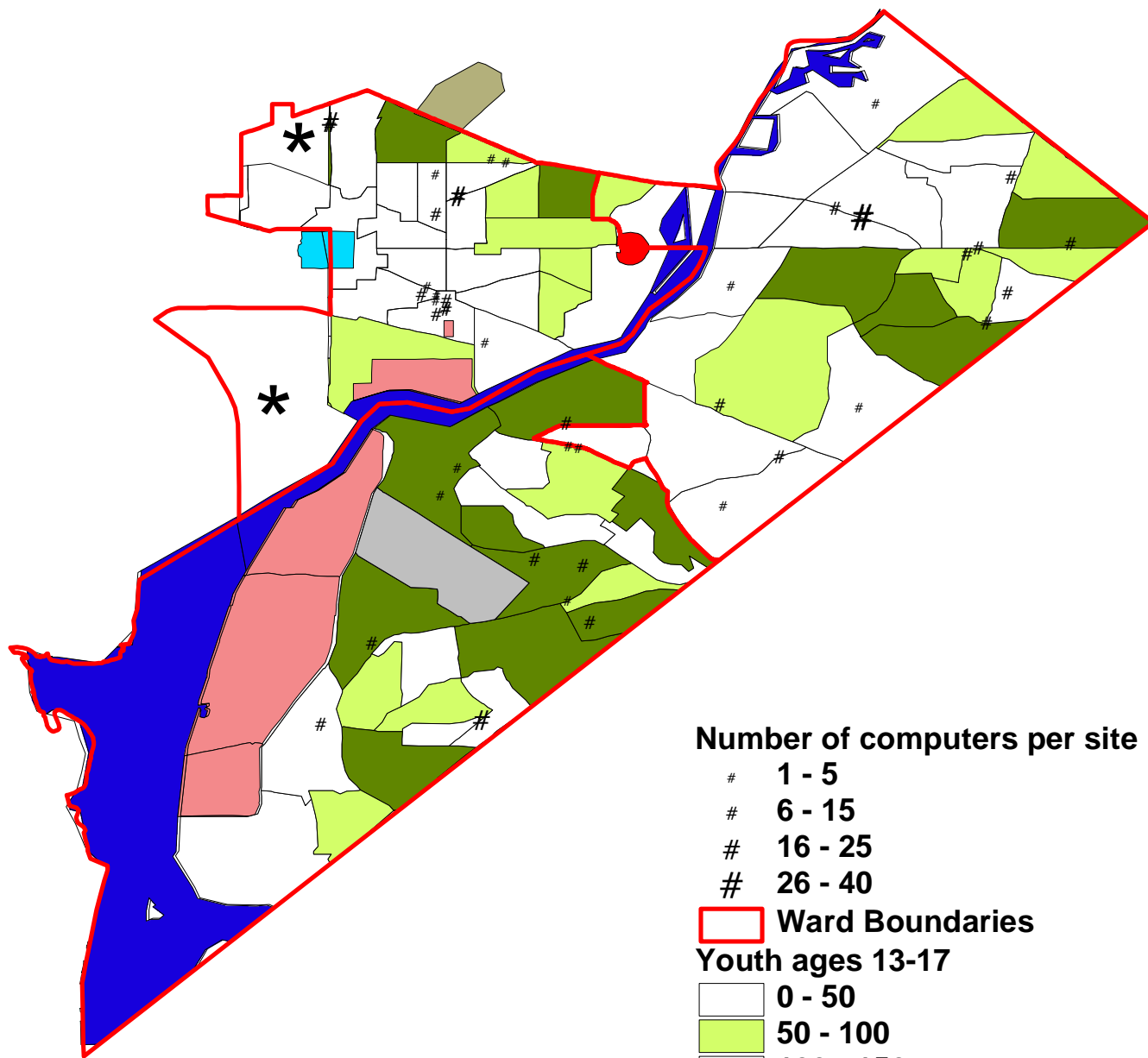
Young children, ages 5-12

- under 200
- 201 - 400
- 401 - 600
- 600 or more

* Tracts not in survey area; population data not entered.



Map 2 - Distribution of Teens (ages 13-17) and Computing Centers in Wards 6, 7 & 8

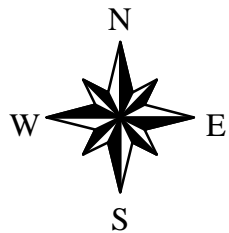


Number of computers per site
 # 1 - 5
 ## 6 - 15
 ### 16 - 25
 #### 26 - 40

Ward Boundaries
 (Red outline)

Youth ages 13-17
 (White) 0 - 50
 (Light Green) 50 - 100
 (Medium Green) 100 - 150
 (Dark Green) 151 - 268

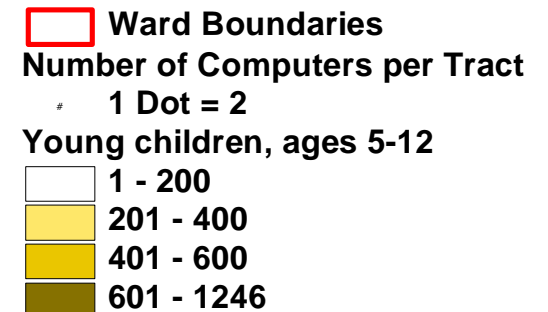
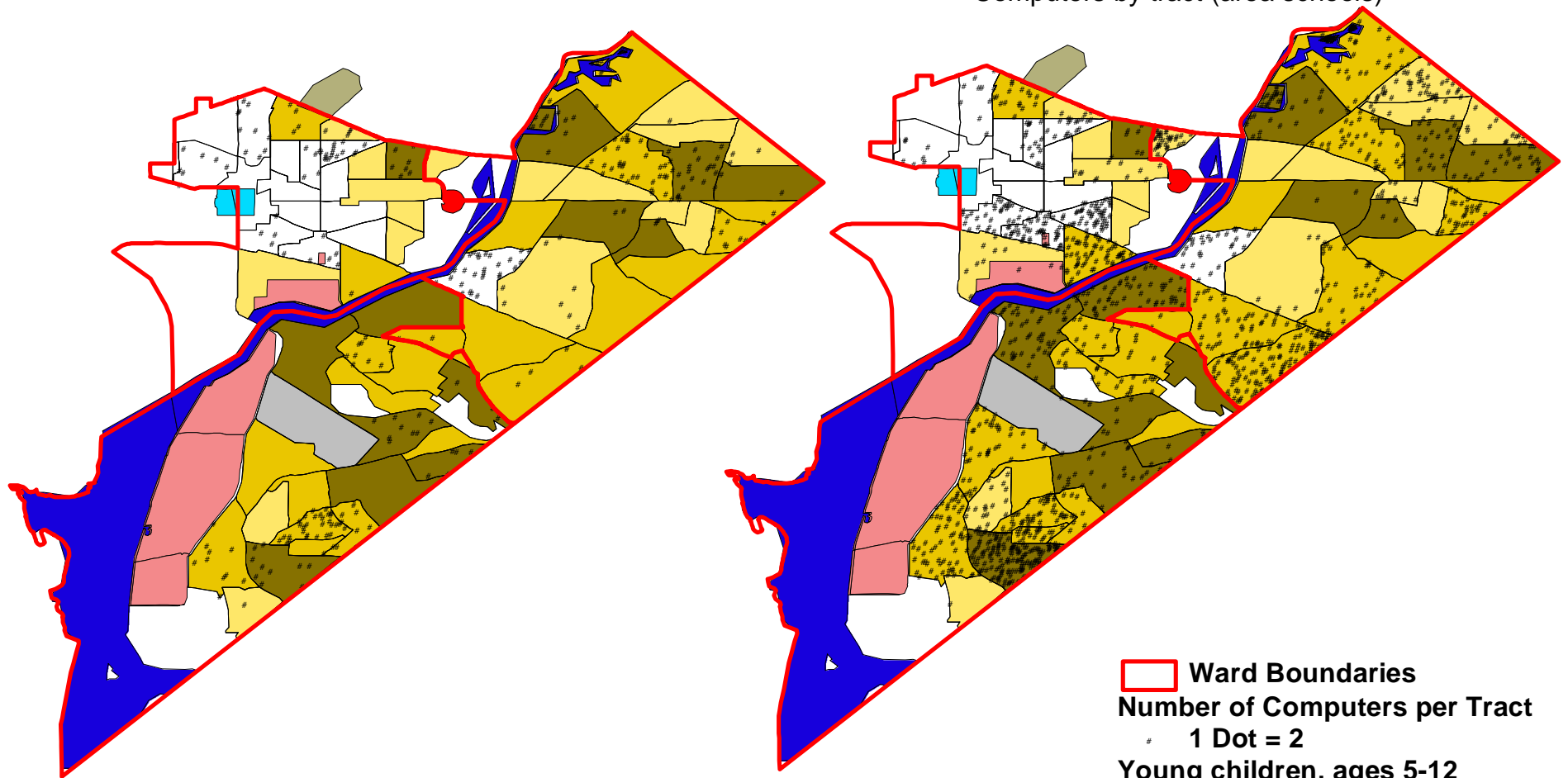
* Tracts no in survey area; population data no entered.



Map 3: Comparison of Computers Inside and Outside of Schools for Children Ages 5-12

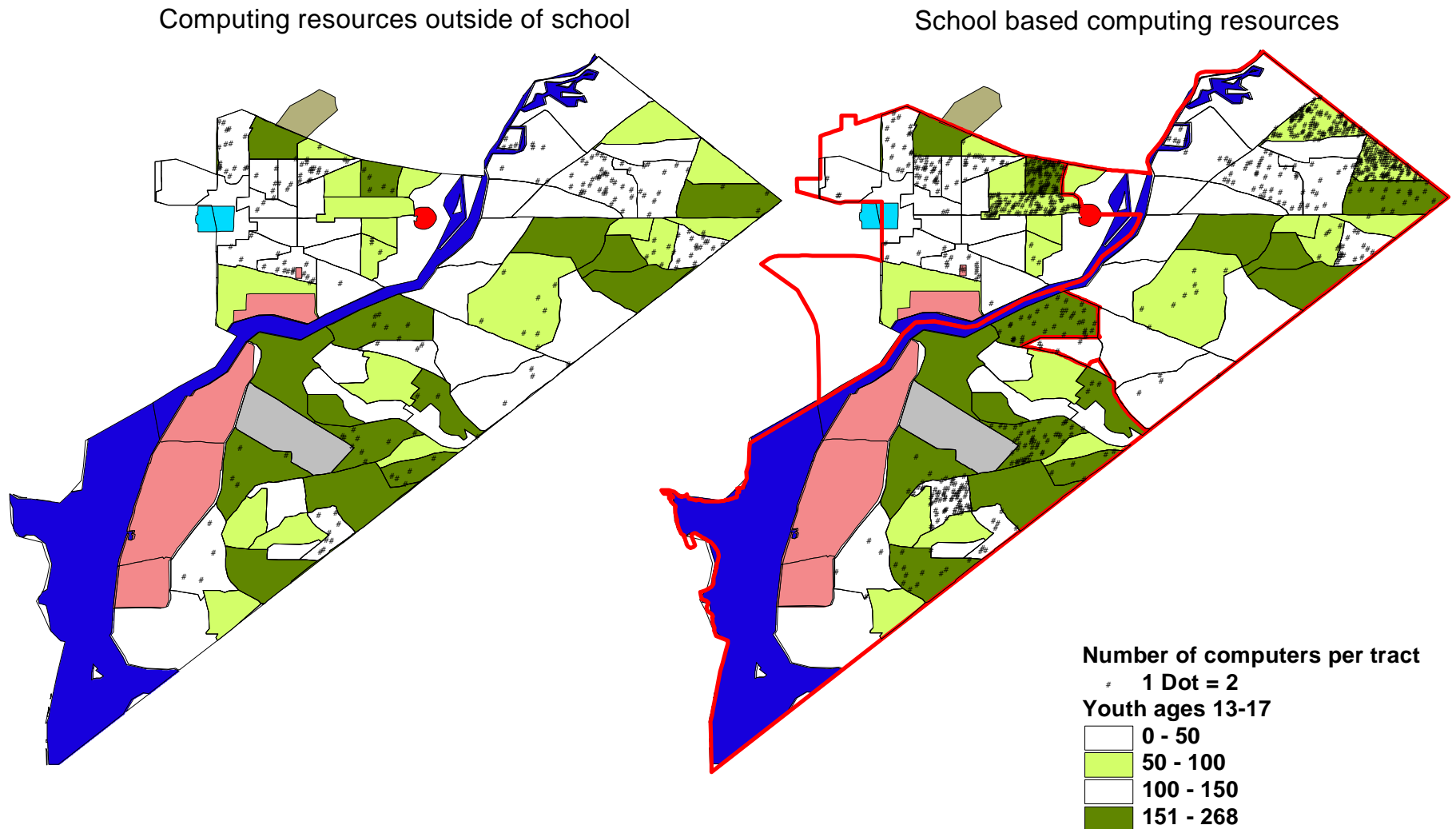
Computers by tract (local agencies)

Computers by tract (area schools)



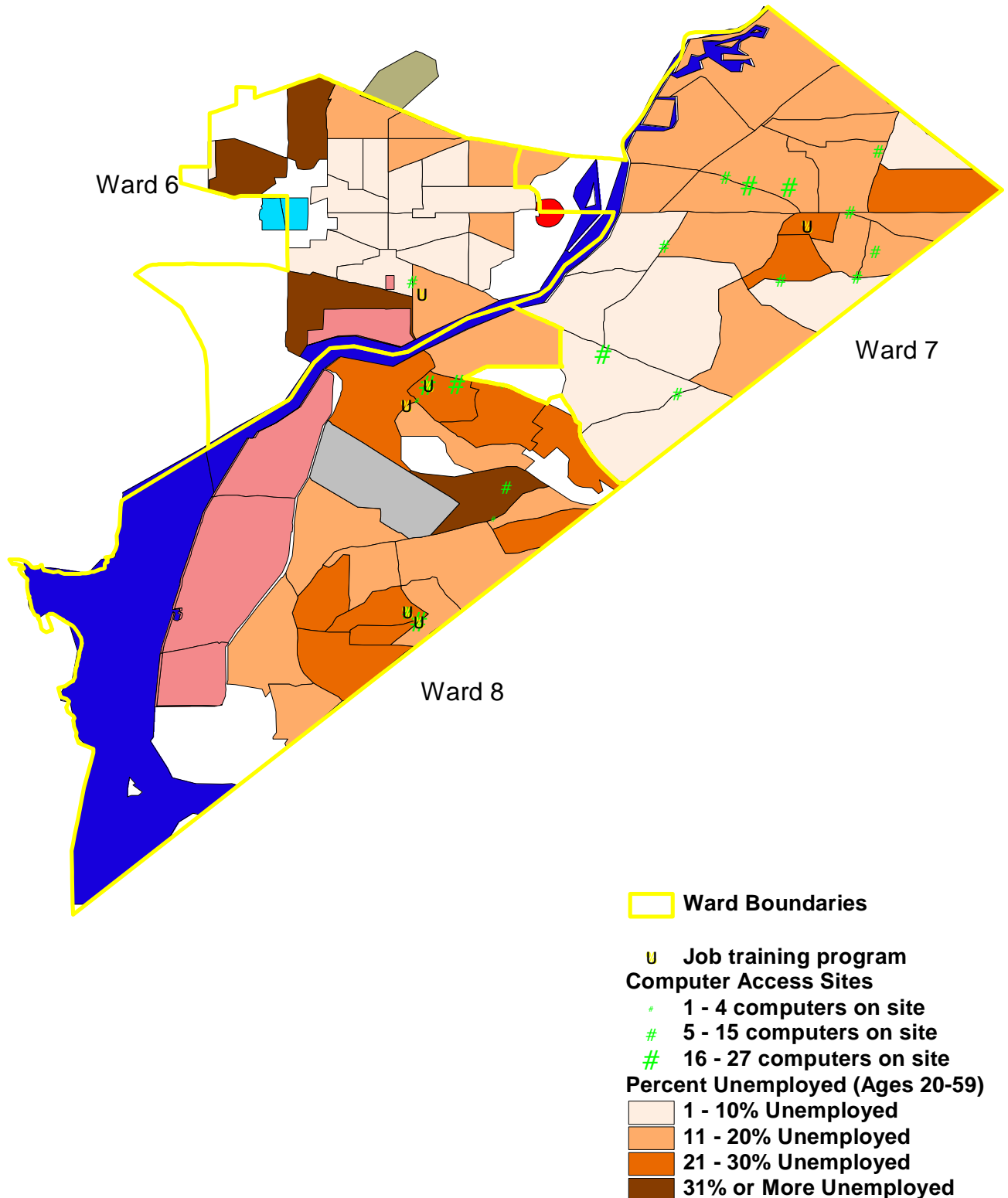
Source: Urban Institute, Center on Nonprofits and Philanthropy 2002

Map 4 - Comparison of Neighborhood Computer Resources to School Computer Resources for Youth Ages 13-17



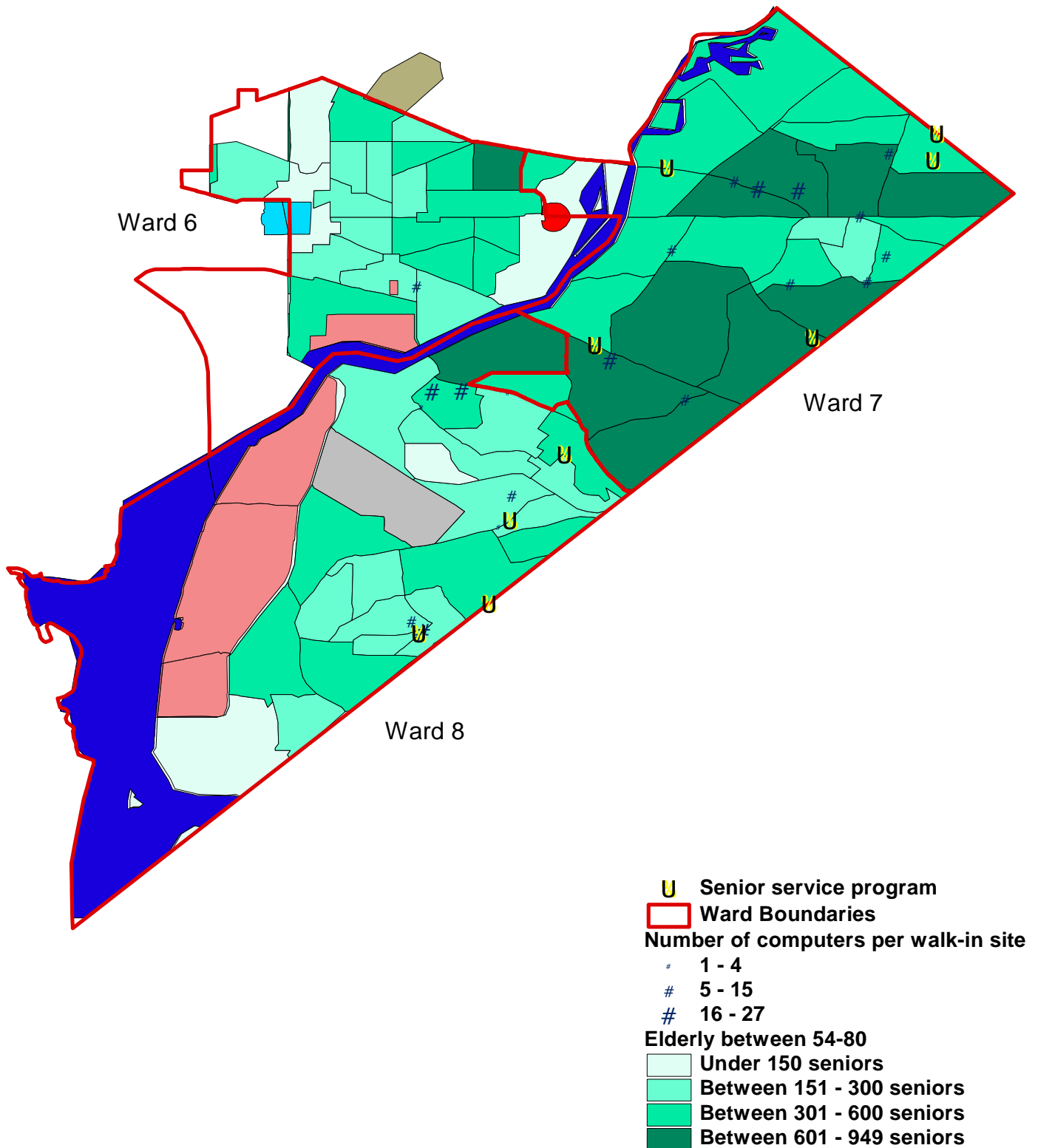
Source: Urban Institute, Center on Nonprofits & Philanthropy 2002

Map 5 - Unemployed Men and Women (ages 20-59) with Computing Centers in Wards 6, 7 & 8



Source: Urban Institute, Center on Nonprofits & Philanthropy 2002

Map 6 - Distribution of Older Adults with Service Programs and Computing Centers



Source: Urban Institute, Center on Nonprofits & Philanthropy 2002