THEME: Information Technology

The Digital Divide:
The Economic Development Administration's 21st Century Challenge
by C. Robert Sawyer

Robert Sawyer is Director of the Chicago Region of the U.S. Department of Commerce, Economic Development Administration.

The century that lies ahead holds new challenges for the Economic Development Administration (EDA): challenges that no one, not even the most prescient forecaster, could have envisioned when EDA was created in 1965. One of these problems is called the digital divide, a byproduct of our rapidly growing new electronic economy.

By many measures, the growing economy is widening the gap between the haves and have nots, between the rich and the poor. One group has computers and high-tech skills. The other group has few computers and low-tech skills. One group is part of the new economy. The other group is not.

When President Lyndon Johnson sent the EDA legislation to Congress for enactment, he said: "The conditions of our distressed areas today are among our most important economic problems. They hold back the progress of the nation, and breed a despair and poverty which are inexcusable in the richest land on earth. We will not permit any part of this country to be a prison where hopes are crushed, human beings chained to misery, and the promise of America denied."

Working to eliminate economic distress in America is as important today as it was in the 1960s. What has radically changed is the set of workable economic development solutions.

Closing the digital divide will require EDA to reach beyond the traditional programs that President Johnson envisioned and we have used for nearly 35 years: the roads, buildings, and waterlines that EDA helped build across the country. It will require new solutions.

Before EDA can get to solutions, we have to understand the problem, and we are just beginning to understand its seriousness and extent.

At the request of EDA, New Mexico State University recently completed a report assessing technology in Native American communities, mostly tribal reservations. The assessment uncovered serious technological deficiencies:

- Only 39% of rural households in Native American communities have telephones compared to 94% in other communities;

- Of rural Native American households, only 22% have cable television, 9% have personal computers, and of those only 8% have Internet access;

- Only 17% of the tribes participating in the report have a technology infrastructure plan.

The National Association of Counties (NACO) recently released a survey on how well counties use

Counter the Cybernetic Wal-Mart Effect
by Richard Sclove

This little piggy went to the market,
Another piggy shopped online from home,
The second piggy paid no sales tax,
So why do both feel disempowered and alone?

With annual online sales projected to soar above $1.4 trillion by 2003, Congress is debating whether to limit taxes on purchases made via the Internet. Last fall, the House resolved - 423 to 1 - that there should be a worldwide ban on levying special or discriminatory taxes on electronic commerce. Sen. John McCain and house majority leader Dick Armey propose permanently exempting e-commerce from existing sales taxes.

Critics charge that the loss of revenue to state and local governments would endanger schools, roads, and other essential public functions.

The debate encompasses concerns from the perspectives of public servants, businesses, and consumers. But how about that of citizens? What would tax-free e-commerce mean for democracy and civic life?

Very possibly it could mean the same thing the proliferation of Wal-Marts and megamalls has meant for Main Streets: demise, though no one intended it.

information technology. It was reported that the nation's smallest counties, especially those below 50,000 population, are least likely to provide Internet services for their citizens and are least likely to have plans to do so. In many of these counties, the problem is an obsolete telephone system that cannot provide efficient links to the Internet.

In "Technology in Education 1999," an annual look at computers in schools by Market Data Retrieval, it is estimated that public schools spent about $5.53 billion on technology in the last school year. Still, the report noted that the numbers show a continuing disturbing pattern: schools with high poverty rates and a high percentage of minority students are less likely to have up-to-date technology than others.

And the Department of Commerce's own National Telecommunications and Information Administration found that:

- Households with incomes of $75,000 and higher are more than 20 times more likely to have access to the Internet than those at the lowest income levels and more than 9 times as likely to have a computer at home;

- Whites are significantly more likely to have Internet access than are Blacks or Hispanics;

- Regardless of income level, Americans living in rural areas are lagging behind in Internet access. Indeed, at the lowest income levels, those in urban areas are more than twice as likely to have Internet access than those in rural areas earning the same income.

EDA is striving to develop programs that will help make information technology as available in towns as it is in cities, and as available to the poor as it is to the rich. For those on the wrong side of the digital divide, it is the promise of 21st Century America denied. You can't compete in the New Economy if you can't even log on.

This may be EDA's greatest challenge yet.

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On-Line Resources: Information Technology

Benton Foundation
http://www.benton.org

Center for Democracy and Technology
http://www.cdt.org

Community Technology Centers Network
http://ctcnet.org

Computer Professionals for Social Responsibility
http://www.cpsr.org

Cyber-state
http://www.cyber-state.org

Digital Divide Network
http:// www.DigitalDivideNetwork.org

Economic Development Administration
http://www.doc.gov/eda

Information Technology Association of America
http://www.itaa.org

Land Information Access Association
http://www.liaa.org

Loka Institute
http://www.loka.org

Media Interface and Network Design (M.I.N.D. Lab)
http://www.mindlab.msu.edu

Merit Network, Inc.
http://www.merit.edu

Michigan Virtual University
http://www.mivu.org

Morino Institute
http://www.morino.org

U.S. Department of Commerce Digital Divide Website
http://www.digitaldivide.gov

Usable Information Technology Jakob Nielsen's Website
http://www.useit.com

Suppose a Wal-Mart locates on the outskirts of a town, and half the residents start doing some of their shopping there while the other half continues to do all its shopping downtown. Although all the residents still patronize Main Street for the bulk of their shopping, downtown retail revenue drops enough to start killing off the shops.

This is a perverse market dynamic - a loss to the entire community no one wanted. Once the downtown starts to shut down, people who preferred shopping there have no choice but to switch to Wal-Mart. Sociologists call this a "collective-action problem": reasonable individual actions that together add up to a socially irrational outcome.

As more commerce goes online, a new cybernetic Wal-Mart effect threatens to aggravate this pattern. Increasingly, local businesses are not just competing with a mall on the outskirts of town. They are now up against the entire global marketplace.

Brick-and-mortar Wal-Marts mainly threaten mom-and-pop retail shops. But online commerce is spreading into every sector of the economy, including local manufacturers, business suppliers, and service providers such as travel agents, lawyers, stockbrokers, and accountants. A few of them may thrive by going online themselves, but they're the exceptions. In general, the economies of scale involved in enticing a viable customer base to a Web site will overwhelmingly favor a few deep-pocketed, very un-local enterprises.

If we think of ourselves solely as consumers, this isn't necessarily a problem. While local economies wither, the Internet should enable consumers to enjoy access to a wider range of goods and services, in some cases at lower cost.

But the catch is that we're not simply consumers. We're also family members, friends, local community members, and workers. From the standpoint of democratic society, above all, we are citizens.

As consumers, we always ask: "Is this the best deal for me?" But as citizens we must ask: "Does a cybernetic Wal-Mart effect serve the common good? Does it further our interest in preserving and improving the character of our democracy?"

These are criteria overlooked by most analysis of online commerce, which considers Internet tax issues from business and consumer perspectives, but never from a citizen or civil-society perspective.

> ... as citizens we must ask: "Does a cybernetic Wal-Mart effect serve the common good?

From a democratic citizen's perspective, e-commerce with its coercive cybernetic Wal-Mart effect is problematic. My online shopping contributes to shrinking the local economy, forcing you to go online when local business alternatives are no longer available. That dynamic, foreclosing your option of choosing a locally oriented way of life or remaining offline, is an entirely involuntary imposition.

Eviscerating a local economy weakens local cultural and community vibrancy. That's bad in its own right, but worse for democracy. As social bonds weaken, people relinquish mutual understanding and the capacity for collective action - essential conditions for a workable democracy.

At the same time, undercutting local economies increases local dependence on national and global market forces and on decisions made in faraway corporate headquarters - powers over which communities have little or no control. As the locus of political intervention shifts to distant centers, the influence of individual citizens declines.

A refusal to tax e-commerce amounts to a public sanction of this anti-democratic shift. The simplest way to maintain a healthy balance between e-commerce and local business, between market forces and the social good, would be to tax online and mail-order catalog sales, granting some of the revenue back to municipalities to invest in local economies and community activities.

Our judgments as citizens need to consider but also transcend our narrower interests as consumers. When it comes to public policy and the common good, our citizen-selves ought to be sovereign over our consumer-selves.

If our consumer-selves say "yes" to sheltering e-commerce from taxes and shrug at the cybernetic Wal-Mart effect that will assuredly follow, are our citizen-selves prepared to live with the civic consequences?

Richard E. Sclove is Research Director of the Loka Institute (www.Loka.org), a nonprofit organization concerned with the social effects of science and technology. He is author of "Democracy and Technology" (Guilford Press, 1995).

The Administration's Efforts to Close the Digital Divide
by Wendy Lader

The following was adapted by the author from a speech given at the "Solutions for the Digital Divide" conference, held recently in Washington, D.C.

The Clinton-Gore Administration has made it one of its top priorities to close the digital divide. Ensuring fundamental access and training in new technologies is one of the most significant investments we can make. With the growth of our nation's information economy, access to new technologies is essential so that all can participate and benefit. Families must have access to the Internet so they can obtain online government services, telemedicine, online courses, and participate in one of the most thriving sectors of our economy.

We also need to train our students so they will be adequately prepared for jobs in the digital world. We're not talking just about jobs in the information technology sector. We're talking about any job that uses information technology. By 2006, almost half of American workers will hold such jobs, and we need to be sure that they have the skills for those jobs.

Closing the digital divide is essential to the continued growth of our economy and the welfare of our communities, regardless of their race, income level, or where they live. President Clinton has identified our objectives: we must make sure that everyone has access to a computer and the Internet; everyone must know how to use it; and everyone should be able to make the maximum use of it.

The Administration is fulfilling these objectives in several ways. First, we're tracking connectivity. Second, we're dedicating resources to the problem. Finally, we're working to expand private sector involvement.

Falling Through the Net

First of all, we are trying to understand the nature of the problem so that we can find the right solutions. The Department of Commerce has issued three *Falling Through the Net* reports over the last few years to examine which families have access to new technologies and which do not.

The most recent report was issued in July 1999 and is, by far, the most comprehensive. This report measured household connectivity and also looked at where Americans access the Internet outside the home and how they use the Internet. The report relies on Census Bureau data collected from a sample of 48,000 households across the fifty states in December 1998. As such, it provides one of the largest surveys, if not the largest, on this topic.

Our report yielded some interesting findings - a few of which I'll share briefly. (*The entire report may be viewed online at www.digitaldivide.gov*).

We found gaps in computer and Internet access along a number of lines: income, geography, race, education level, age, and household type. Income obviously plays a key role. For example, high-income households (earning more than $75,000) are seven times more likely to have Internet access than households earning less than $10,000.

The digital divide also cuts along geographic lines. If you live in a rural area, your chances of having online access at home are far lower than families living in suburban areas or central cities. This is true at every income level.

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>
> ### - Wendy Lader

We also found a significant divide based on race: Asian Americans are the most connected for all income levels, while African-Americans and Hispanics are the least connected groups. Income also plays a role here: the disparities among racial groups are lower at the highest income levels. But at incomes below $35,000, the disparities are particularly severe. A White household is three to four times as likely to have Internet access as a Black or Hispanic family.

Falling Through the Net reports have served as a yardstick for those of us in public policy by helping us determine which communities have the least access to new technologies. I'm therefore pleased to report that Secretary of Commerce Daley has announced that we will be issuing these reports on an annual basis.

Administration Programs

Our second area of activity is investing in America's future by promoting access and training in new technologies.

A number of existing programs are already expanding those opportunities. The e-rate program, for example, is helping close the gap for school children. That program, established in the 1996 Telecommunications Act, provides for a 20-90 percent discount for schools and libraries that are connecting to the Internet, with the largest discounts available for eligible schools and libraries in the poorest communities. This program has made a significant

difference: in 1994, only 3 percent of classrooms were connected; today, more than half of all classrooms and 90 percent of public schools in America have at least one connection to the Internet.

Other programs, several of which are administered by the Department of Commerce, are also bringing technologies to underserved areas. Among these is NTIA's Technology Opportunities Program (TOP), formerly known as TIIAP. TOP provides grants to non-profit and public entities that are applying new technologies in innovative ways to serve their communities. Many of these grants go to non-profits, state and local governments, and educational institutions that are developing model programs from which other communities can learn.

The impact of using new technologies is powerful, particularly in rural, remote, and economically disadvantaged areas. For example, TOP helped finance telemedicine links in North Carolina that connect emergency rooms of small rural hospitals to specialists at the State's teaching hospitals. The result of this telemedicine has been - in at least one case that we know of - literally life-saving. Another grantee is helping open job opportunities for Native Americans, who (for reasons of distance, income level, and poor infrastructure) have among the lowest rates of technical literacy. This grantee has established public access centers throughout a reservation so that tribal members can now get skills training in information technology.

Other Administration programs are also helping close the digital divide. The Department of Education, for example, launched the Community Technology Centers (CTC) program in 1999, which helps fund technology centers around the country. The Department of Housing and Urban Development administers the Neighborhood Networks program to help establish computer learning centers in public housing projects.

Encouraging Public/Private Partnerships

These programs have played a significant role in helping close the divide. But, of course, government can't do it alone. Industry must play the leading role. High-tech companies are in the best position to help close the technology gap. They know what skills workers need; they have the resources and expertise to train Americans; and they know where investments are needed most.

This February, President Clinton unveiled his new budget proposal, which highlights what we call the ABC Strategy. It focuses on expanding Access, Basic Skills and Training, and Content. Many of these proposals seek to catalyze private initiatives.

President Clinton and Secretary of Commerce Daley have also stressed the need for private/public partnerships. At the Closing the Digital Divide Summit held in December 1999, Secretary Daley brought together CEOs of industry and leaders from community and civil rights organizations.

At the Summit, they jointly addressed ways to promote access, training, infrastructure development, content for underserved communities, and the role that each must play.

President Clinton recently completed his third New Markets tour, bringing CEOs from major high-tech and telecom industries to areas that need further investments in technology and training. The tour demonstrated what the private and non-profit communities can do to close the divide. More than 400 companies and non-profits have signed on to the President's National Call to Action, expressing their commitment in closing the technology gap. And the tour generated well over $100 million in private investments.

Along the way, we also accumulated stories about the importance of expanding digital opportunities. The President met with students in East Palo Alto - the first stop on his tour - where they are learning how to create web sites at a community technology center, called Plugged In. Some of these students are now creating web sites for small businesses in their community.

"This is a national crusade. We have to do this, and do it quickly."

-President Clinton

That same day, President Clinton went to Shiprock, New Mexico, where only 30% of the families have telephones. There, he met a 13-year-old girl who told him about how she won a contest and got a computer as a prize. The irony is that this young girl can't use her computer to get online because she doesn't have a telephone line in her home.

If anyone says that we don't need to worry about the digital divide, these two stories tell otherwise. The digital divide remains a problem for the nation and, therefore, a priority for the Administration. And it's a problem that the public and private sectors must address jointly and in partnership.

We're at a critical juncture. The Internet can widen the gap between the haves and have nots, or it can bring profound change to all Americans. The challenge of the future is to ensure that the benefits of the Internet are shared equally. As the President said in his State of the Union Address, "[t]his is a national crusade. We have got to do this, and do it quickly." With your assistance, and the tremendous assistance of companies and non-profits that are dedicated to this issue, we will.

Wendy Lader is Senior Policy Advisor at the U.S. Department of Commerce, National Telecommunications and Information Administration (NTIA).

Does the Internet Make Us Lonely?

By Jakob Nielsen

Jakob Nielsen's Alertbox is a bi-weekly column about Web usability. The following column, from February 20, 2000, may be viewed on line at:

http://www.useit.com/alertbox/20000220.html.

When discussing the impact of the Internet on society, it is important not to be deceived by industrial-age definitions of terms and concepts.

The importance of understanding how concepts change in the Internet economy was emphasized by discussions of a new survey released by the Stanford Institute for the Quantitative Study of Society (see below for links to the data and to some of the press coverage). Basically, the study was claimed to show that the Internet causes social isolation and increases workload.

There are several methodological weaknesses in the survey. Most important, surveys are a poor way of studying the impact of the Internet. You cannot simply ask people to self-report how their behavior has changed. It is well-known that it is very difficult to estimate time consumption; people often rationalize their behavior when they are asked to introspect and report on what they did.

Second, even assuming that we believe what the respondents reported (which we should not do), then the numbers are quite weak as well. For example, 13% of heavy Internet users reported spending less time attending events outside the house and 65% of the heavy Internet users reported spending less time watching television. But how much did people reduce attendance of events outside the house? One ballgame per year? Or one per week? And how much less time did they spend on TV? A minute per day? Or an hour per day? Obviously, the interpretation of the impact of the Internet would differ, depending on the reality behind the vague answers.

Social Isolation

The study found that the more time people spend on the Internet, the less time they spend communicating with other people. In particular, 27% of heavy Internet users report spending less time talking to friends and family over the phone. 15% report spending less time physically with friends and family, and 13% report spending less time attending events outside the house.

Leaving aside the fact that this means that 85% of heavy Internet users do not report spending less time with friends and family, the real question is whether the study has an appropriate definition of social isolation.

Why is the telephone considered a superior form of social contact relative to the Internet and its communication formats such as email and discussion groups - or checking your grandchild's home page for her latest drawings.

If somebody had conducted a similar survey 100 years ago, they would surely have claimed that phone calls were a cold medium that undermined traditional forms of social contact such as visiting people to have tea.

In assessing the impact of the Internet, the question is not whether it replaces (fully or partly) some other forms of communication and social contact. Because the Internet adds its own new forms of communication and social contact. For example, people may well attend fewer meetings and events outside the house and yet feel connected to a community of others who "meet" on a much more regular basis online.

The question is whether the new lifestyle is enjoyable and whether it nourishes humans or causes them damage. There is certainly a risk that some people get overly caught up in chat rooms and role playing, but a different kind of study is needed to assess this problem.

Work Invades Home

The study found that 28% of heavy Internet users report spending more time working at home (12% out of these 28% even reported spending more time at the office as well). This is decried as proving that work is invading the privacy of the home.

But why is it bad to integrate work life and home life? On the contrary, one could argue that it is an unhealthy deviation from human nature to designate a special location as the "office" and insist that all work take place there. In most of human history, people lived and worked in the same location and work efforts and leisure activities were intertwined. The need to have assembly line workers report to a central factory to crank out Model Ts is the only reason we temporarily had the notion of work being a separate part of life. Industrial era concept.

In the Internet economy, people have already started bringing their private life to the office. Much private email gets sent from company computers. Much private shopping takes place over the company's T-3 line since fast access is the only way one can suffer through many current e-commerce sites.

The real question is whether the Internet makes us more stressed. Unfortunately I tend to believe that the Internet does have some blame in this area due to the miserable design of current email systems.

But non-Internet technologies are even more to blame. Cell phones, pagers, fax machines, and Federal Express (guys in trucks!) all conspire to make us ever-more driven and ever-less capable of contemplation and thorough analysis.

Digital Divide

The survey has a third finding which has not been reported very widely, despite the fact that it is much more credible than the two over-hyped findings:

Quoting from the Stanford report: "By far the most important factors facilitating or inhibiting Internet access are education and age, and not income - nor race/ethnicity or gender, each of which account for less than 5 percent change in rates of access and are statistically insignificant."

The study's analysis of the digital divide is credible

If We Build It, Will They Come?
Another Perspective on the Digital Divide
by Linda A. Jackson, Ph. D.

The Internet may well be the crowning achievement of the 20th century. Amidst a wave of unbridled enthusiasm, the Internet is transforming all aspects of everyday life, from how we communicate with family and friends to how we obtain information, earn a degree, participate in government and buy goods and services. For many, these are exciting times. But there is a dark side to the digital revolution. Unlike the industrial revolution that preceded it, not everyone is participating in the digital revolution, and the price of nonparticipation will be staggering indeed, and shared by all.

If anyone doubts that the Internet is transforming the way we do everyday life, and will continue to do so and more dramatically, consider the following. By 2006 there will be about 900 million devices hooked to the Internet, essentially 900 million computers, but not as we typically think of them (i.e., PCs). This will make the Internet about the same size as the current worldwide telephone network (including cell phones). In fact, the Internet may be the telephone network by that time. Many of these 900 million devices will be inside of appliances, like toasters, refrigerators, and ovens. In fact, there is already a prototype of an Internet-enabled refrigerator (Electrolux, Sweden) that has a liquid crystal display (LCD) in the front door and a bar code reader to keep track of what is inside. When you're out at your local supermarket, you need only whip out your palm pilot and e-mail your refrigerator to see what you need.

And this is just the beginning! Featured at a recent trade show in Tokyo was an Internet-enabled bathroom scale that reads your weight and immediately sends it to your doctor's office to become part of your medical records. There is the "Magic Frame," a picture frame connected to the Internet that will download pictures you've stored in a file on your PC. At $250, it's a perfect gift for grandparents who want to see their grandchildren living across the country grow up. Lest these devices seem too mundane, by the year 2008 there will be an interplanetary Internet, involving at least Mars, with other planets to follow. Researchers at the Jet Propulsion Laboratory, together with researchers from a host of private and governmental agencies (e.g., MCI Worldcom), estimate that a complete interplanetary Internet backbone will be a reality in 30 to 40 years.

Of course one could argue that these innovations have little to do with the day-to-day lives of ordinary citizens. After all, pencil-and-paper shopping lists work just fine, as does snail-mailing pictures to grandma and grandpa. And Mars, after all, is very, very far away. But the real impact of the Internet is much closer to home. It's the Internet's impact on how people will be educated, do their jobs, participate in commerce, and participate in government. More fundamentally, it's about whether we will be able to sustain a democratic society or not.

If we are serious about reducing the digital divide then we will need to consider what causes people to use or not use the Internet in the first place.

Well known by now is that there is a digital divide in the U.S. separating the information haves from have nots. The divide is based primarily on income, but also on factors related to income, namely race/ethnicity, education and occupational status. For example, consider that African Americans, who constitute about 12% of the U.S. population, are a mere 3% of frequent Web users. Although the numbers may vary from survey to survey, there is no denying that large groups within our society are not participating in the digital revolution.

The solution to the digital divide has focused on increasing access to digital technologies, namely computers and the Internet. To the extent that the cause of the divide is economic, this solution makes sense. However, to the extent that other factors are involved, a purely economic solution will fall short of the mark. And it has. After spending countless dollars wiring schools, community centers, and libraries, evidence suggests that the digital divide has actually increased (National Telecommunications and Information Agency, 1999).

There is something uncomfortably familiar about the digital divide that should alert policy-makers, researchers and concerned citizens everywhere to the complexity of the problem, and therefore the likely complexity of the solution. There is today and always has been a similar "divide" in math and science interest and performance. For example, according to a recent

Mapping Your Community
by Susan Aceti

The Coalition for Low Income Community Development (CLICD) is a coalition of grassroots and national groups organized to ensure that low-income people benefit from the community planning and development programs administered by the U.S. Department of Housing and Urban Development (HUD). CLICD's mission is to improve low-income groups' access to HUD funds for community revitalization and help them implement community-based planning processes. Our special expertise is community-based planning and community mapping using geographic information system (GIS) software.

We believe that the primary factor in determining the success of local housing and community development is the degree to which the community participates in the decision-making process. These important programs thrive when neighborhoods and nonprofits are intricately involved in the planning process, and community groups are vigorously pursuing these federal funds.

To have effective and inclusive community-based planning, communities need to acquire tools that allow them to successfully illustrate their needs and assets. One of the most effective of those tools is HUD's *Community 2020™* mapping software. For the last four years, CLICD staff have worked with this mapping software, giving community development groups, nonprofits, and local governments the ability to make maps that communicate ideas in a clear and powerful way. *Community 2020™* provides data and mapping capabilities to allow community groups to get a clearer picture of where HUD funds are already being spent.

Maps are useful in housing and community development work because they can take a large amount of data and summarize it into a bright, attractive picture. Maps also attract attention in a way that volumes of dry data cannot. People relate to maps much more strongly than the written word by recognizing and understanding their homes and communities in a very powerful way.

CLICD has trained more than 250 people from 144 nonprofits and local government departments on the software. We are working to show them how to use *Community 2020™* as part of their regular housing and community development work. Indeed, by creating maps that pinpoint where funding is-and is not-being spent, groups can spur citizens to action. Using the data provided with the software, along with a spreadsheet or database, *Community 2020™* is a powerful tool to help groups complete the analysis necessary to develop strong housing and community development strategies.

CLICD provides four services to nonprofit organizations and local governments:

1. Demonstrations

In areas where there is little knowledge of the *Community 2020™* software and its capabilities there may be an initial need for us to demonstrate what the software can do before training is provided.

2. Training

Normally, we hold a three-day course on *Community 2020™*. Our three-day training is much more extensive than HUD's one-and-a-half day training. Part of the training time is dedicated to practice sessions in which participants are given the opportunity to apply the skills learned. We also help attendees develop data for a mapping project *before* a training so that they can develop a project during the training.

Each participant has a computer at the training - we do not have participants share computers. We provide a 90 page training manual that includes the following chapters:

Chapter 1: Creating a Map, Moving Around and Layers
Chapter 2: Data
Chapter 3: Mapping Spatial Variation (Using labels and themes)
Chapter 4: Selection Sets (for example — showing just the City of Baltimore, not surrounding areas)
Chapter 5: Formulas (using formulas to manipulate data)
Chapter 6: Importing Your Data into a Map
Chapter 7: Creating and Editing New Geographic Layers
Chapter 8: Printing Maps
Chapter 9: Consolidated Plan Grantee Screens.

Each training participant also receives a *Guide to Census Variables*. If needed, we can provide a limited amount of follow-up technical assistance via phone or e-mail.

3. Individual On-site Training

This type of training is appropriate when you have already been trained on the software, but have a mapping project that needs more individual attention. Our trainers will work with you in your office for one or two days on a particular project.

4. Mapping

If you determine that you and your staff do not have the time to produce maps yourself, we can create them for you. Once you provide the necessary data, we produce maps to your specifications.

An Example of CLICD's Mapping Service

The Local Initiatives Support Corporation (LISC) is involved in monitoring expiring Section 8 contracts. The Section 8 program increases affordable housing choices for very low income households by allowing the household to choose privately owned rental housing. Local Public Housing Authorities (PHAs) contract with landlords who rent to households with Section 8 vouchers. The renter pays up to 30% of their income for the rent with the rest being subsidized by the PHA. When landlords choose not to continue the contract with the PHA once it has been expired, the housing choices for very low income households becomes much more limited.

CLICD staff produced maps of 30 cities around the country for LISC showing the expiring Section 8 contracts. On average, three views of each city were used to show up-close areas, so about 100 maps were produced. All of the maps were printed in color on large size paper to show more detail. Four ranges of Family Median Income were color coded on census tracts in each map to show areas with low income residents.

LISC determined that maps showing areas within a city where contracts were expiring would be useful to their staff in those communities. With this information, the local LISC staff could decide whether to promote other affordable housing programs in the area.

For more information on CLICD or mapping your community, contact Susan Aceti at 410-752-7222, ext. 14.

Michigan Technology Survey:
Internet Use and Online Purchasing Grow

In its second annual technology survey, Cyber-state.org found that nearly two-thirds (61%) of Michigan adults used the Internet at some point in 1999, an increase of 9 percent from the previous year. In addition, nearly twice as many Internet users in 1999 than in 1998 used the Internet to make at least one purchase (29 percent in 1999, 14 percent in 1998). These findings are among those discovered by the 1999 *Information Technology in Michigan* surveys, conducted by Cyber-state.org.

This survey follows up another conducted in 1998 by the Michigan Information Technology Commission, Cyber-state.org's predecessor. Cyber-state.org is a nonprofit group established in 1998 by Michigan's business, education, health care, and government and philanthropic communities, including the W.K. Kellogg Foundation, Council of Michigan Foundations, and Herbert H. and Grace Dow Foundation.

The survey was written and conducted by Public Sector Consultants, Inc., of Lansing, Michigan, and includes two components:

A random survey of 800 Michigan adults aged 18 and older.

A survey of 400 Michigan teenagers aged 12 through 17.

Other major findings include the following:

- Overall, adult respondents' attitudes regarding confidence in the economy, the direction of the country, and the direction of Michigan are unchanged from last year.

- Ownership of technological devices is increasing: 13 percent more adults report owning a pager in 1999 than was the case in 1998; for cellular telephones, reported ownership is up 5 percent; and for one or more computers at home, reported ownership has grown 10 percent.

- The majority of adult and teen respondents without a computer at home have a computer available to them, primarily at a relative's or friend's house or in a local library or community center.

The complete report of survey findings is available online at *www.cyber-state.org* or *www.pscinc.com*.

M.S.U. Trustee Dorothy Gonzales
by Bette Downs

Michigan State University Trustee Dorothy Gonzales concluded her year as chair by escorting her colleagues on the Board of Trustees to Detroit to observe the University in action. President Peter McPherson and Provost Lou Anna Simon accompanied the group. During the two-day December trip, the trustees visited diverse neighborhoods where MSU participates in outreach programs.

At the Arab Community Center for Economic and Social Services (ACCESS), in southwest Detroit, the trustees learned about "A Community Between Two Worlds," an exhibit developed by the agency and the MSU Museum and now on a cross-country tour.

MSU Trustee Dorothy Gonzales

At the Amelia Earhart Middle School, the trustees heard about "Kids Learning in Computer Klubhouses" (KLICK). Using new computers provided by MSU, the students have competed histories of their neighborhood, of St. Anne Roman Catholic Church, and of nearby Tiger Stadium.

At the Dexter-Elmhurst Community Center in northwest Detroit, the trustees saw the results of a neighborhood-University alliance. MSU's Cooperative Extension Service, Center for Urban Affairs, and other affiliates joined Dexter-Elmhurst residents to develop what Gonzales describes as "a functioning and viable community center."

"I felt it was important for the trustees to observe MSU's off-campus activities," Gonzales says. "I see outreach as a key to fulfillment of the University's land-grant mission of public service, especially where there are obvious needs."

Established in 1855 with funds appropriated by the legislature, the Michigan Agriculture College (now Michigan State University) became the model for the federal Justin S. Morrill Land-Grand College Act signed by President Lincoln in 1862. Named for its chief proponent,

the legislation stipulated that each state could receive 30,000 acres of public land for each of its senators and representatives. Proceeds from the sale of these lands were to be spent to create a college "where the leading objects shall be to teach such branches of learning as are related to agriculture and the mechanic arts."

With its head start, Michigan State soon began outreach through the work of early alumni, initiating a practice that has continued throughout its history. Frank P. Davis, class of 1868, served as assistant chief engineer to a railroad in Ecuador, dispelling any notion that Michigan State was strictly an agricultural institution. And in 1891, Eugene Davenport, class of 1878, without benefit of jet transportation, traveled to Brazil to organize an agricultural college which "should be a little Lansing."

The *Encyclopedia Americana* states that "By [the Morrill Act], higher education was placed within reach of the growing number of youths from all walks of life who sought training in scientific and industrial pursuits." Michigan State did not charge until 1859, and continued effort has kept costs at a minimum.

Gonzales passionately believes in the responsibility of land-grant institutions to make education available to all. "MSU is doing a good job of enabling students, regardless of their finances, to go to college," she says, "but we need to provide more resources so that all children can have a meaningful education and a resulting high quality of life."

From its beginning, Michigan State has emphasized science. "This was one of the distinctive contributions of the land-grant movement," according to historian Madison Kuhn. In his centennial book, *Michigan State: the First One Hundred Years,* he says, "learned professors had not been assembled to teach Michigan farm boys to harness a horse or wield a hoe." Instead, they studied chemical analysis, agricultural chemistry, animal and vegetable physiology, entomology, veterinary science, surveying, civil engineering, and "arborculture."

When Theophilus C. Abbot became president in 1862, along with science he initiated a liberal arts program featuring ethics, logic, psychology, ancient history, English language and literature, economics, geography, and constitutional law.

Edwin Willits, who became president in 1885, sought ways to serve urban populations, pointing out that, under terms of the Morrill Act, the school needed to provide "…such branches of learning as are related to…mechanic arts." He introduced an engineering program and a summer school for teachers. A Congressional appropriation of $17,000 paid for a building and the salary of a professor of mechanics. In steady progression, urban programs have evolved from this beginning.

Gonzales believes that urban needs can best be met by crossing departmental, college, and institutional lines. "This is happening," she says. "For example, the School of Social Work and the School of Education operate

cooperative programs." And, new in 1999, eleven of MSU's colleges work with MSU Extension in a Coalition for Children, Youth, Families, and Communities (recently renamed Families and Children Together).

Another new program, the Life Sciences Research Corridor, combines the resources of Wayne State University, the University of Michigan, MSU, and private industry. Objectives include the expansion of research and high-tech industry.

As she reflects on MSU's growth, Gonzales says, "MSU has made a name for itself in the last few years." She sees "tremendous change." Other institutions seek advice just as they have in the early days.

Gonzales strongly supports study abroad, another way of spreading the land-grant philosophy. Forty percent of graduating students have had overseas experience at a cost no greater than the cost of study on campus." We have more students studying abroad than any other university," she says.

Gonzales is director of the office of multi-cultural services in the State of Michigan Department of Community Health. She supervises 23 programs in the requiring travel and long hours but, despite her heavy schedule, she will run for another term, beginning her campaign this spring.

"I see many programs I want to continue to follow," she says. "Exciting things are happening for us at our University. Being a part of this effort has been a wonderful experience for me."

Bette Downs lives in East Lansing and is a regular contributor to Community News and Views.

report by the National Science Foundation (1998), disadvantaged racial/ethnic minority children are less likely to take advanced courses in math and science in high school, and less likely to major in fields that require math and science skills in college (e.g., computer science). While poverty can explain some of this gap, it cannot explain it all. Low-income Asian American children do not evidence a similar gap in high school, and are overrepresented in the fields of math, science and engineering by a factor of three. Asian American families are more likely to have home Internet access than families of any other race/ethnicity, regardless of income. In fact, 64% of Asian American homes in the U.S. were hooked to the Internet, twice the national average.

Of course, access to digital technologies is essential to reducing the digital divide. But decades of psychological research into the causes of behavior - be it reading a book, sky diving, or talking with a friend - cast doubt on the assumption that "if we build it, they will come" with respect to Internet use. If we are serious about reducing the digital divide then we will need to consider what causes people to use or not use the Internet in the first place, and what effects Internet use has on people. These questions are the focus of a research effort currently underway at Michigan State University.

HomeNetToo is a pilot research project aimed at examining why people use the Internet (motivational factors), how they feel about using the Internet (affective factors), and how technology attitudes and styles of learning influence Internet use (cognitive factors). The project is also examining what effects Internet use has on people, in particular, its effects on family and social relationships, feelings of self-competence, and motivation to learn and advance professionally. Participants in the pilot project are low-income African American families in Lansing, Michigan, who have been given computers and home Internet access, and participate in home visits with project staff to familiarize them with Internet activities. Although the pilot project is limited to a small number of families, a proposal to include 90 families and a comprehensive set of measures has been submitted to the National Science Foundation (April, 2000).

Visit HomeNetToo on the web at:
http://www.msu.edu/~jackso67/homenettoo/

Andy Carvin, Senior Associate at the Benton Foundation, stated that "The digital divide is one of the most important civil rights issues facing our modern information economy. As telecommunications increasingly entwines itself with educational, social, financial and employment opportunities, those communities lacking access will find themselves falling further behind the rest of society." Carvin also raised the question of whether the digital divide is only an issue of access. He thinks not, and for many of the same reasons we are investigating in HomeNetToo.

If we are serious about eliminating the digital divide we will need to do more than provide access to the Internet technology. Access to technology will no more bridge the digital divide than access to education has eliminated disparities in academic achievement. We will need to address factors that lead people, regardless of income, race, age, gender, ethnicity, or any other demographic characteristics, to use the Internet and benefit, personally, professionally, and maybe even socially, from using it. If we build it, they will come, but only if they want to, only if it feels good, and only if it accommodates the diverse perspectives that make our nation as rich in human resources as it is in information resources.

Linda Jackson is a Professor of Psychology at Michigan State University, and directs the HomeNetToo Project.

The MSU Student Food Bank

by Bette Downs

Welcome to the MSU Student Food Bank
Students Helping Students

A cheery yellow brochure issued by the Michigan State University Student Food Bank proclaims, "We are currently the only known food bank in the nation that was founded for students." Opened at the Olin Health Center cafeteria in 1992, the Food Bank has won the title Outstanding Registered Student Organization for 1995, 1996, and 1997.

Sponsored by the Council of Graduate Students of MSU and the Associated Students of MSU, the Food Bank offers assistance to the needy. By 5:30 p.m. each Thursday, a line of students, many with small children, wait patiently to receive a two-week supply of provisions. Graduate students interview them to determine their requirements, check identification, and review special problems. Referrals are an important feature of the program and may include help in planning for tutoring, childcare, or financial aid.

Before the Food Bank opens, graduate student Allyn Shaw, Food Bank president since 1994, instructs volunteers in the mechanics of food distribution. They learn the location of the packaged macaroni and cheese, hamburger supplements, and noodle classics – all popular items. Later they scurry to dispense foods listed on application forms. They take sweet peas, corn, and green beans from the cases of canned vegetables that line the walls of the spacious kitchen. The Food Bank also provides canned fruit, potatoes, rice, juice,

MSU Student Food Bank Volunteer Charles Stickney

bread, eggs, margarine, fresh produce, laundry soap, and personal items.

With just three part-time employees – a fundraiser, a publicity director, and a manager – the Food Bank must rely on volunteers; and about 600 participate annually. To recruit them, the Food Bank staff arranges meetings with campus organizations at the beginning of each term. Included among volunteer assignments are donation collections at football, basketball, and hockey games. Frequently, former Food Bank clients help when their finances improve.

The Food Bank maintains drop-off bins at the MSU bookstore and the Shop-Rite market at Trowbridge and Harrison Roads. However, 95 percent of the food is purchased from the American Red Cross Regional Food Distribution Center. This contract arrangement enables the Food Bank to obtain for $5 the equivalent of $85 worth of food sold at retail stores.

With an expenditure of $1,500 to $2,000 monthly, the Food Bank serves between 80 and 100 families each week. Startup funds of $1,000 came from the Council of Graduate Students and other donations. All monetary contributions go directly to food purchases.

The Food Bank brochure states, "Even though the perception of most individuals in society is that college students do not experience extreme monetary problems and should not need these services, we have found the students of today comprise a much more diverse population than in the past. Students with dependents, international students, as well as many other students do have significant monetary difficulties, and at times, are barely making it from semester to semester."

Volunteer Bea Mott is crucial to the operation. Now retired, she served as assistant to five MSU presidents beginning with John Hannah. Always active in the community and University service programs, she initiated the Food Bank after conducting a survey to determine need.

Bea Mott does her best to remain in the background but ask anyone associated with Food Bank and the answer is the same. She is a key figure in the formation and continuation of this vital University resource. On most days
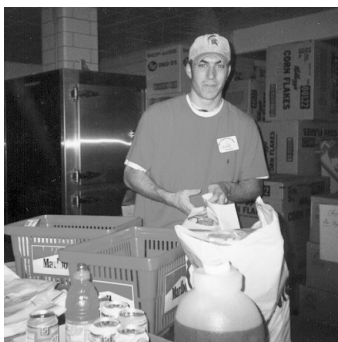
Boon-Chai Ng, graduate student from Singapore and a weekly volunteer at the Food Bank

she is at the Food Bank taking inventory, ordering large quantities of supplies, or on Thursday evenings, addressing unusual situations, perhaps a young mother in need of nutrition supplements for herself or her child or a discouraged student seeking counseling. She also engages in extensive fundraising.

In April of 1998, Bea Mott received one of East Lansing's annual Crystal Awards. Presented by the City Council, the Award is "one way of thanking individuals and groups for community service."

According to the Award mission statement, "The beauty of crystal reflects the tradition of service and the gift of giving in our community…Award winners are symbols of our spirit, our embrace of diversity, and our search for excellence. They represent our inheritance and our legacy from one generation to another." Bea Mott and the Food Bank, with its goal of students helping students and it philosophy of confidentiality and trust, epitomize the Crystal Award emphasis on service.

The Food Bank does not receive University funds, although many campus organizations do offer support. Contributions are always welcome and may be made the MSU Student Food Bank, Michigan State University, 320 Student Services Building, East Lansing, MI 48824.

E-mail: foodbank@pilot.msu.edu

www.http://www.msu.edu/user/foodbank

Bette Downs lives in East Lansing and is a regular contributor to Community News and Views.

because issues like race, education, and age are precisely defined and can be reported very accurately in a survey as long as the respondent feels comfortable that the survey is being administered by a credible institution (Stanford would certainly count here) and that the answers will be treated anonymously.

When splitting out the effect of the various variables, the study finds the following three main effects on Internet access:

1. Education (having a college degree): +49%
2. Age (older people compared with 18-25 year olds): -43%
3. Income (having high income): +21%

My interpretation of this finding is that the digital divide is a usability problem. The politicians are targeting the wrong part of the problem when they treat the digital divide as an economic issue. True, there is a (smaller) problem due to the expense of computers, but this third-level problem is rapidly vanishing and will be completely gone in a few years when computers will cost the same as donuts.

Old people will not go away. In fact, people who are currently in their 40s and 50s will be around for a long time to come. We can't simply write them off just because kids have fewer problems using computers. The same is true for people without a college education. We can't force them all to go back to school for four years simply in order to participate in society.

There is only one answer: computers and the Internet have to be made substantially easier to use than they are now.

Additional Reading

Stanford Institute for the Quantitative Study of Society
(institute sponsoring the study)
Summary of findings
(HTML format: recommended for online access)
Full (preliminary) report
(Warning: 43 page file in PDF format - only suited for printing.)
Selected press coverage and commentary:
San Jose Mercury News
USA Today
Washington Post
Salon

For links to these materials, visit the original online column at http://www.useit.com/alertbox/20000220.html.

1999 Institute Report Released

The Report from the 1999 Summer Institute, **"Creating Sustainable Communitites: The Role of Community Based Organizations"** is now available from the MSU Community and Economic Development Program. To receive a copy, contact the CEDP at (517) 353-9555. Or view the report on the web at http://www.msu.edu/~cua.

CEDP

Capital Area Community Voices Data Democratization Team Continues Progress

Ingham County, the City of Lansing and other local organizations are developing an on-line information system where community members can get access to data about the well-being of their community, learn about community resources and services, and communicate with others working to improve the community. The effort is supported in part by the County's Community Voices project, funded by the W. K. Kellogg Foundation, and by a Department of Commerce TIIAP grant to the City.

This project is guided by the principles of Data Democracy, which holds that:

- Public data should be available on the Web (while protecting confidentiality).
- Public information should be released in a way that helps people understand community issues and evaluate progress toward community goals.
- Community members should be able to add information to public information systems (without compromising government's obligation to be neutral).

John Melcher, Associate State Director of the CEDP, serves as chair of the Data Democratization steering committee.

Through the Capital Area Community Voices web site, the following sorts of information will be available:

- **Queriable Public Databases**
- **Interactive Data Mapping**
- **Information and Referral Database**
- **Indicators of Community Well Being**
- **Document Warehouse**
- **Community Health Forums**

For more information about Data Democratization project, visit the temporary CACVoices web site at *http://www.ingham.org/hd/firsthome.htm*. The site will move later this year to its permanent home at *www.cacvoices.org*.

LaMore Named to Committee on Insitutional Cooperation

Dr. Rex L. LaMore, State Director of the Community and Economic Development Program, was recently selected as a seminar Fellow for the 2000-2001 Academic Leadership Program, sponsored by the Committee on Institutional Cooperation (CIC). The CIC is an academic consortium of the Big Ten Universities and the University of Chicago.

The Academic Leadership Program is intended to develop leadership and managerial skills of faculty of CIC campuses. Participants are selected on the basis of having demonstrated exceptional ability and administrative promise within their institution. The program involves a series of two-day seminars at three member universities, and participation in activities with a mentor at one's home campus between seminars. Dr. LaMore began his Fellowship year in May 2000.

LaMore and Supanich-Goldner Publish Chapter on Mayoral Leadership

Rex LaMore and Faron Supanich-Goldner have authored a chapter in a recent book on mayoral leadership. The chapter is a case study of the leadership style of Mayor John H. Logie of Grand Rapids, and focuses on the Mayor's efforts to facilitate intergovernmental relations in west Michigan.

The book, *Governing Middle-Sized Cities: Studies in Mayoral Leadership*, was edited by James R. Bowers and Wilbur C. Rich, and published this year by Lynne Rienner Publishers of Boulder, Colorado. LaMore is State Director of the MSU Community and Economic Development Program; Supanich-Goldner is an Academic Specialist at the CEDP.

UPDATES

"Closing the Gap" Coalition Confronts Lansing's Digital Divide

A coalition of community agencies, educational institutions, and nonprofit organizations from throughout greater Lansing are working together to help bridge the digital divide in mid-Michigan through a project to increase access and skills in the area of information technology. Known as "Closing the Gap," this project will coordinate programs for recycling donated computers with education and technology opportunities to enable low-income individuals and families to better prepare to be successful in today's information economy.

Previously independent efforts that have been in development over the past three years recently joined together to become the "Closing the Gap" initiative. One of these, originally called *Port of Entry*, is an alliance between the Capital Area District Libraries, Lansing Community College, and the Greater Lansing Housing Coalition. This project aims to establish a dial-up computer network through which participants in an information technology training program can connect to a central "server" to practice skills taught in a library-based computer center and at the community college.

Meanwhile, *LAPTOTTs*, a university-community partnership between Michigan State University and Capital Area Community Services, has been helping the area Head Start program to increase the availability of computers in classrooms, and provides volunteer facilitators to work with children and their parents on learning to use this often unfamiliar technology. Parents in Head Start will be introduced to the basics of computing and linked to community resources for further training.

In addition, the Black Child and Family Institute, a Lansing community center serving minority and low-income families, is preparing to launch a pilot computer recycling program that will also combine access to technology and building skills. Participants in this program will learn to disassemble and upgrade a donated computer with additional memory and other components to make it suitable as a first computer with which to acquire basic information technology competencies.

The convergence of these three efforts results in a comprehensive approach to provide basic technology tools and skills to area families who have until now gone without – the have nots on the wrong side of the digital divide. As the "Closing the Gap" team moves forward with continued pilot projects and fundraising efforts, prospects appear brighter for improving access to information technology in mid-Michigan.

For more information on this effort, contact John Melcher or Faron Supanich-Goldner at the Lansing office of the CEDP.

Community and Economic Development Program Directory

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