# *Measuring Outcomes of Digital Divide Investment to Community Technology Centers*

January 9, 2003

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## Purpose and Process

The extent of the digital divide in Illinois has not been well documented; however, it is generally agreed that the term "digital divide" cannot only refer to access to the Internet, but also to the existence of the gap between people who can effectively use new information and communication tools, such as the Internet, and those who cannot. The Illinois Commerce Commission – Community Technology Fund has provided financial investment to underserved communities to attempt to mitigate the disadvantages of being on the "wrong" side of the digital divide.  The fund provides state-level support to the *CONNECTING-MY-COMMUNITY* project for advanced telecommunications technologies for community technology centers serving underserved populations in urban and rural areas.  The *CONNECTING-MY-COMMUNITY* project focuses on five key issues:

1. Assisting Community Technology Centers in doing a better job, every day, in delivering services.
2. Building a sustainable statewide association of Community Technology Centers.
3. Aggregating and linking (via portals) content related to information technology, community development, business planning, grant writing, health care issues and materials for enhancing literacy for practitioners and consumers of Community Technology Centers.
4. Developing basic and more advanced IT skills curricula for practitioners and consumers of Community Technology Centers, as part of their professional and organizational development.
5. Reflecting on project outcomes to help the project team -- managers, educators and technical staff design sustainable programs to build capacity for using telecommunications technologies.

Measuring outcome from this type of investment is challenging.  The evaluation model adopted for this project follows a stakeholder empowered agenda, where project stakeholders ~ users, educators, telecommunications professionals, legislators, and volunteers determine which outcome criteria needs to be measured for the evaluation.  To begin, the first group of stakeholders – the project team members -- were asked to describe their role in the project. Project members completed a worksheet that focused on:

- Their unique contribution to the project;
- Describing other groups in the community offering similar programs;
- Identifying their likely stakeholders, not only the users of their program but anyone networked to their decision making and who could advance or limit the outcomes from their efforts;
- Defining their target audience and potential users; and

⟩ Listing the shared values that will drive the development of their project; and

⟩ Identifying potential participants for focus group to further define expected project outcomes.

The feedback from the worksheets provides the foundation for all subsequent activities. The project team identified honesty, teamwork, quality of program and relevance as the key values that will drive project activities. Documenting project stakeholders allowed the evaluation to ensure that participants for future evaluation activities will be representative. Consortium members identified project stakeholders to comprise: members of the consortium, the organizations they represent and the organizations they serve; people of Illinois who would benefit from eliminating the digital divide; foundations and other funders who support programs targeting underserved populations; people with disabilities for telecommunications access; providers of telecommunications services; and staff and users of Community Technology Centers. The objective of this evaluation is for the stakeholders to define the important outcomes and milestones to expect from this type of digital divide investment.

Focus group discussions became the evaluation technique to elicit information from stakeholders about expected outcomes. The project team identified many individuals from each of the above stakeholder categories to participate in the focus group discussions. Because the members of the project team work with different and diverse organizations, the stakeholders invited represented various interests from across the state. Responses to the Key Issues Worksheets provided insight into the design of the focus group questions. On October 1, 2002, sixty-two stakeholders attended a day long event at the University of Illinois at Urbana Champaign which included facilitated discussions, formal focus group discussions and a lecture on the value of electronic teams and knowledge networks (Appendix I: Agenda).

**Table 1: Stakeholder Participation in Focus Groups**

| Stakeholder Attribute | | Percent of Participants |
|---|---|---|
| Members of the Consortium (Project Team Members) | | 30.6 |
| Other Stakeholders | | 59.7 |
| Speakers and Facilitators | | 9.7 |
| | **Total** | **100%** |
| Chicago | | 43.5 |
| Other Urban Centers | | 41.9 |
| Rural | | 14.6 |
| | **Total** | **100%** |
| Telecommunications Providers | | 8.1 |
| Not-for-Profit Organizations | | 40.3 |
| University and Community Colleges | | 38.7 |
| Government | | 6.5 |
| Other | | 6.5 |
| | **Total** | **100%** |

## Summary from the Facilitated Discussions

All participants to the October 1st event were asked to study to the CONNECTING MY COMMUNITY project vision and provide examples of how their community or neighborhood would look if this vision were realized.

CONNECTING MY COMMUNITY Project Vision

> Ensure that all residents have the greatest chance of success through enhancing, improving, and equalizing technical access through a statewide network of Community Technology Centers.

Responses to how an ideal community would look if the vision was realized varied across five themes: improving communities by improving access to the Internet and its resources; improving the learning environment of underserved populations; allowing users to better use telecommunications to communicate and publish; building the knowledge base of the community as they gain more access to telecommunications; and using telecommunications to improve the quality of life in their community. The individual comments are listed below:

### Theme 1: Accessing the Internet and Its Resources

- People get more than access – they gain skills in using technology to meet their purposes in life.
- A place where all community members have access.
- Neighborhood would be accessible over the net.
- A meeting like this is done over the Internet (no driving).
- Total solution, technology access.
- Readily available high-speed access, 24/7 with knowledgeable mentors.
- Access to marketplace education and social services.

### Theme 2: Using Flexible Learning Environments

- Folks will take advantage of distance learning right from their neighborhood.
- The CTC will provide the proper training, not just open lab time for untrained individuals.

### Theme 3: Using Technology to Communicate and Create

- Contact will be both via email and telephone.
- Citizens will use email at least once a week.
- A group of people unafraid of communicating through electronic means.
- Introduce people to the technology and get them to use it.

## Theme 4: Creating and Building Knowledge

- More knowledge distribution through the Internet.
- Information clearinghouse for access to educational, employment, social service, housing and other critical services (1 stop).
- Community residents have the skills/technical expertise to produce/publish media that is relevant and helpful to other community residents—they know how to use technology effectively to communicate and create.
- We can define what a CTC is so State funds can be targeted.

## Theme 5: Creating a Better Community

- Young adults would be turned on by technology instead of other activities.
- Area businesses and jobs will grow.
- Human capital grows to social capital.
- My community is able to fulfill their needs.
- Citizens will have better lives, they will be connected to others and things they never imagined.
- Folks with happiness expressed on their faces because an opportunity was given to them.


The Connecting my Community project focuses on building a network of community technology centers across Illinois. Stakeholders were also asked to identify who currently has access to CTCs and who doesn't to better target project activities.


### Who has access to CTCs?

People with Geographical Access

- People who know where are the CTCs.
- "close by" people with interest.
- People with technology skills and community involvement have greater access to CTCs than people who don't; this may be a paradox, but is has possibilities.
- Urban and suburban populations. More people in a given area equal more accessibility.
- People in neighborhoods where CTCs exist.
- More densely populated areas where more CTCs are located and people are more aware of their existence.

People Who Have Identified a Need for CTCs

- People who have a sense of their value.
- People who don't have access from home but who have a need to use the Internet/computers.

**Who doesn't have access to CTCs?  Why not?**

People living in Geographically, Economically and Other Disadvantaged Communities

- No CTC in their rural neighborhood.
- Rural areas far from "big city".
- Residents of rural America because there are not enough resources to equip or staff a CTC for places with small populations.
- Economically disadvantaged communities and neighborhoods.
- People who don't have a CTC within "walking distance", "nearby" convenient distance to travel.
- Church communities.

People Who Don't Know About the Existence of CTCs

- If you don't know about a resources or don't feel that it is "for you" you don't have access.
- Where are the CTCs?

People with Disabilities

- Communities with smaller community of deaf/HOH.
- People who a disability and cannot access the building or devices within the centers.

People Who Lack Adequate Skills

- Those who "don't know" how to use it, even if technology is available.
- Rural populations those who are unaware of the "possibilities" of technology.
- Parents next to a school that have many Internet connected computers because there is no nigh programs (must have exposure).
- High school dropouts.

People Who Are Afraid of Technology

- People that are scared of technology
- Those that have available resources promoting such programs and are afraid to explore because of: age, education level, intimidation, etc.

Other

- People who don't need it! Wealthy, middle class people who have access from home.

## Digital Literacy Survey

Project stakeholders were asked to evaluate the importance of different computer and telecommunications skills in contributing to digital literacy (Appendix II: Digital Literacy Survey). The top 10 skills stakeholders identified to be important are:

1. Send or read email
2. Do online research for school or work
3. Look for a job online
4. Use word processing software
5. Read a newspaper or magazine online
6. Install software
7. Look for a product online
8. Use the Internet to look up health or medical information
9. Find financial information online
10. Use the web to look up local community events (movies, festivals, sports)

Playing games and gambling, programming websites and administering a server were skills the stakeholders identified as not necessary to build digital literacy.

## Focus Group Discussions

Understanding the nature and extent of the digital divide has been the focus of much policy attention. Programs nationally and at the state level have target digital divide elimination strategies as part of their economic development and education agendas. Defining the "digital divide" has not been consistent. Whereas in the past, the digital divide was defined in terms of people having access to the wires and hardware of communications and information technologies, while now, it has become increasingly more evident that the hardware piece of the digital divide is a small piece of the puzzle. As part of the evaluation effort of the CONNECTING MY COMMUNITY Initiative to eliminate the digital divide, developing a relevant and meaningful definition became the foundation of the evaluation.

The stakeholders invited to participate in the focus groups were asked 7 questions exploring the meaning of digital divide and the strategies necessary to mitigate the inequality of access to digital technology (Appendix III: Focus Group Questions). The principal goal of the focus group discussions included: 1) defining how stakeholders define the digital divide; 2) identifying the obstacles for bridging the digital divide; and 3) exploring the role of Community Technology Centers in bridging the digital divide.

## Key Observations

The Focus Groups made the following key observations:

- It is important for all Americans to participate in the "knowledge" economy. Improving basic literacy skills and enhancing those skills people need to effectively use communications and information technologies will contribute to a more healthy and vital economy.

- Eliminating the digital divide cannot only focus on funding hardware or the physical infrastructure. This is mostly a human infrastructure issue where investment needs to target building human capacity to effectively use the communications and information technologies.

- Urban and rural communities face similar challenges as they work to eliminate the digital divide. Although rural places have additional difficulty in providing access to regions with low population density, it is often difficult to install physical infrastructure in heavily populated areas. Furthermore, urban and rural places must equally address the cultural aspect of the digital divide – low skill levels, inadequate access to funding, fear of change, etc.

- The term digital divide extends beyond individuals, but to organizations, governments and businesses not able to effectively use communications technologies.

- People, organizations, governments and businesses don't always appreciate the need to have access to telecommunications. They have not perceived that telecommunications can meet or has the potential to meet their needs for communications, business, education, entertainment, etc.

- The digital divide is like a "moving train" where some people will arrive sooner than others. Not all people will have access to leading edge technology and as technology innovation continues to move at an increasing rate, there will always be people who are behind.

- To help people use communications and information technology more effectively, focus group participants identified several key elements:

  1. Develop culturally specific content, if many people don't realize technology's benefits it is because they have yet to find compelling content. Make the technology relevant.
  2. Create more awareness about the potential benefits of access to communications and information technologies.
  3. Provide funding to programs that focus on building literacy and other user skills.
  4. Training focused on the basic needs of the underserved population – finding better jobs, economic development, etc.
  5. Investment into communications and information technology must be a priority for local leaders, organizations and businesses.

- Training programs addressing the development of basic skills; specifically those to help users become more comfortable with using hardware and software.

- CTCs need to provide training on building basic literacy skills and job readiness.

- Measuring the impact of CTCs needs to include tracking use, as well as, measuring outcome changes on CTC users (changes in self-esteem, knowledge, quality of life) and the community it serves.

> *"CTC is like a 7-11, where everyone feels comfortable going in and it offers one-stop shopping."*

## Participant's Comments

**Question 1: There is a gap between those people and communities who can effectively use information technology and those who cannot. The term "digital divide" not only refers to access to the Internet, but also to the gap between people who can effectively use new information and communication tools, such as the Internet, and those who cannot. *Should we care about the digital divide? Why?***

**Why Should We Care About The Digital Divide?**
**1. It allows everyone to participate in the digital/knowledge economy:**

- It is immoral and unethical for us to leave part of society behind. The dollar we don't spend today will cost us in the future.

- Access to information is critical; people who don't have access to information will be left behind in the economy. Those that don't have ability to use the technology will not be part of the economy.

- The Internet has created a new culture in our society and we cannot have people locked out.

- It's about whether or not we want to perpetuate a class society.

- People of color are becoming a larger proportion of the overall population, if these groups are not participating in using the technology our economy will suffer.

- Technology is just a tool, but this tool has created a new culture and that has provided lots of opportunity.

- The divide will affect the economy. Minorities have 2-3% of job market (how can we grow that number if they are on the other side of the digital divide).

- In my community about 75% of households don't own computers and that is an economic issue and a class issue.

- IT skills are required on all levels of jobs from "mixing paint", to working at McDonalds, or using an ATM, etc.

- A more educated customer is a better customer.

- Ability to move up economically is tied to Internet skills.

- U.S. economy needs to keep our workforce *knowledgeable*.

- More government agencies going online, those without access (for whatever reason) don't have access to these resources making the gap wider.

**2. Why else?**
- It has to do with building quality of life and education.
- Building self-esteem.
- Telecommunications is one more dimension people need for job readiness skills as well as something they need if they want to further their own education. GED or ESL classes are online, will everyone have access.
- Our technology connection is our window to the world. Technology will open the window wider. Technology will help us understand one another better. The September 11 tragedy provides a good example of this.
- The excitement people gain to know that they are not alienated or not left behind.

**Finding A Solution To The Digital Divide**
- Why would anyone say no to bridging the digital divide?
- The digital divide is both physical access to telecommunications and social inequality – both needs to be considered. To address this, we need two different solutions.
- There is no real geographic implication, there is a challenge to provide access to regions with low population, but there are physical challenges to providing access in urban areas as well. There cannot be a separate definition for digital divide in rural areas and another for the urban areas, they are struggling with similar issues. There is an education divide, capital divide. Clients of Small Business Development Centers all face challenges around using telecommunications regardless of whether they come from rural or urban areas.

**Obstacles to Bridging the Digital Divide**
 **1. Fear of Technology**
- Human infrastructure issue – people aren't interested, fearful of it, not available when they need it. It's not about having access to the hardware.
- People are afraid of change, afraid of technology. Need to market the effectiveness to show people the benefits. People who aren't very literate are afraid.
- We need to educate people to not be afraid.
- People who are afraid of using computers, are they afraid of other technologies – cell phones, VCRs, CD players. Is it about the hardware or the function? People are not as afraid of the technology as they are with being afraid of learning how to use it.
- Provided an example where an older woman, unemployed need to learn new skills, but she is afraid to learn, she doesn't like change, she's afraid of change.
- Some teachers and principals don't teach technology, they are afraid of technology. They view it (technology) as something bad. Some teachers want to turn their laptops back because they don't want to do this. These teachers see technology as a problem that they wish would go away.

- Kids aren't afraid of anything, adults are. Learning styles have changed. Teachers are still mad at Nintendo, because the teachers can't keep up. Respondent had an 8 year-old and 9 year-old who run the lab because they know how to provide help to other users.
- People feel intimidated to go to a computer lab without an instructor.
- It's pretty easy to work the programs, people have to get over the fear.
- People don't want to be part of a technology that can monitor their behavior.

**2. People need skills ~ Building Human Capital:**
- Digital divide solutions aren't about the technology but about the people.
- Need to provide the wires but also the training to use the tools.
- Telcos are sometimes accused of being the impediment to access. But they cannot provide solutions to the social side (building human capital) of this problem.
- A "bunch" of people don't care about digital technology and don't appreciate its value.
- Without the basic technical skills people will be at a disadvantage.
- A major focus must be on workforce training.
- Using the Internet assumes a level of literacy. How do we overcome this?
- Teachers and politicians need to be accountable in how they address technology. Teachers who have the responsibility to train our children in these skills need to have a positive attitude.
- The children will teach the adults. We need to invest in their use of technology. Teach the young kids grades k-8 the need for the technology. The children will bring their parents begrudgingly into using these technologies.

**3. Funding:**
- The social service provider now must be concerned about the physical infrastructure, network security, servers, etc. They continue to be concerned with funding issues to provide access to telecommunications for more than 1 year, but finding funding for 3-5 years is difficult.
- Budgets are shrinking, teachers are laid off, and technology may get cuts in the budget.

**4. People don't appreciate the benefits of being online:**
- People need to see how these tools are effective.
- Is it about being afraid or not understanding its purpose. People are willing to invest in learning if they value the purpose.
- People who don't have access, who don't have jobs, who aren't involved in economic activity and don't need the email, access to information. We have to deal with the other problem, give them the need for the technology.
- Connecting grandparents with grandchildren brings joy.
- Once people have access, they must have a need for using it -- entertainment, education, and employment.

**Question 2: Although there is no consensus at to the extent of the digital divide, how do we know if we've eliminated this gap?** *How do we know if there is no more digital divide?*

**Can't Think About When It Is Over, We Still Have A Long Way To Go:**
- The need to teach people to use this technology is so great, that we can't even think about when it is over. The DOC showed a fast adoption of technology within the minority communities, but it started so low, that any improvement would be a high percentage increase.
- Technology innovation is moving so fast that we have a hard time keeping up with modern hardware. The digital divide isn't eliminated because they have technology at home because you always need the better "machine"
- The digital divide is like a moving train; there will always be a divide.

**Why Is It Difficult To Define The Digital Divide?**
- The digital divide is tied to economic disparity and therefore we first must address the poverty issue.
- There will always be a gap because with technology there is always something new and disadvantaged communities don't have the economic resources to keep up with the innovation. It's a horserace, everyone will get to the finish line, and some will get there before others.
- Until we understand what access means to people - education, economic, communications -- we won't know when we eliminate it.
- Digital divide also needs to include those in the hearing impaired community and disabled community. Need to make this an "American" issue. Tie concerns of the disabled to those who are economically disadvantaged.
- The extent of the digital divide ties into other divides – literacy, math skills. Community Technology Centers must provide education to address all these divides.
- CTCs need testing software to test users skill level or their level of knowledge about using software, then they can measure their progress and see their own improvement.
- Whether you can at all connect in a community and at what cost.
- Develop training and mentoring programs. People trained, people helped increase use.
- Make a model program, use a rural community that doesn't have access, and monitor what happens in 5 years.
- How do we catch up the back of the train with the front of the technology train?
- Are we using relevant measurement scales to determine the extent of the digital divide? Scales may need to change as technology and access patterns change.
- Even if everyone has access, there is still a need for computers, software, etc.
- Short-term problem is educating mom and dad.
- How do we measure our success in mitigating the digital divide?

**Extent of the Digital Divide:**

➢ The extent of the divide is generational; get the kids involved the children aren't afraid.

➢ People think that those in the divide are poor, unemployed, but local rural governments are also on the other side of the digital divide.

➢ Divide begins with the services a community needs – business, government, social services, the inability to access common services, those core services necessary on a daily basis. Digital divide in context, services that are ATMs, using a debit card, etc. there are lots of uses that are cash saving technologies. Education, the schools are functioning with technology. Services that drive the community which traditionally work with low-income groups are they on the other side of the digital divide.

➢ Don't know if we will ever eliminate the Digital Divide

➢ People would be surprised to find the extent of the digital divide in the inner Chicago neighborhoods.

➢ There is more than one digital divide… it's also about age.

➢ A definition of the digital divide would be different in Illinois then in Seattle. What is the digital divide? Hardware, software, access or cultural differences by region? In Illinois, hardly anyone is using telecommunications technologies interactively. A survey of 34 elected officials report that half have email and half have access personally. Many people don't give out their email address.

**Examples The Digital Divide Is Eliminated:**

➢ There is no divide when the adoption of communications technology is equal to that of the television or telephone.

➢ When most everyone who wants it can get it.

➢ Although the schools have certain standards in the availability technology, kids in the inner city know that in the suburbs they already have better equipment, palm pilots, etc. -- when the suburban kids and inner city kids have access to the same technology.

➢ Everyone can use technology like we can read and do math.

➢ Increase in computer sales and Internet usage.

➢ When more people have their own email address.

➢ The number of students with computer access at home.

➢ When users from a wide spectrum of personal economic levels are using the Internet.

➢ Not only is a network available, people are using it.

➢ Can gain high speed access anywhere in Chicago.

➢ Telephone is the killer application, does the Internet become equally useful.

➢ The community including the disadvantaged community, to overcome their fear of using technology, have a sense of curiosity about the technology, they feel encouraged and they create a growing body of knowledge leading to teaching others. The students rise to another level where they teach others.

➢ Parents are motivated to use the technology which addresses part of the cultural divide.

➢ Users have better basic technology skills.

➢ People are more comfortable using the technology, the equipment.

> Eliminating the fear factor using telecommunications.
> Schools teach a greater number of skills that improve computer literacy.
> When the private sector is contributing to digital divide elimination – by providing computers, sustaining programs investing in general training.
> People have computers at home and bring their benefits home and then continue to invest in that technology.
> When the technology going into the community is sustainable, they can upgrade when the want to, not when something comes their way. When the technology base is upgraded based on resources already in the community.
> Greater equality in the distribution of funding. Certain grass roots groups do not have access to funding for these issues.
> Contributes to the quality of life, makes people's lives more productive.
> You would probably see more young people off the streets. They're looking for something to identify with. But kids can see more of the world by clicking on the Internet.
> Decrease in dropout rate.

**Other**

> Community will decide when the digital divide is eliminated. We won't be able to make that assessment.
> What is the value of the Internet? At what point does it stop being entertainment and start being a necessity.
> Computers are not just PCs, they run other machines, cars, elevators, etc. What is a computer, what is it capable of doing. Not to be afraid of it, "it's not magic" When people understand that it's not hard.

## Question 3: What is the most important thing we could do to help people use new information communications tools better?

**Create the Content**

> The content needs to drive the system. There needs to be an investment in developing cultural specific content.
> To eliminate the digital divide it is important to understand what is the intuitive need for technology.
> Grass root organizations cannot give up on the primary role in the community – housing, jobs, etc. How do we use technology to address those needs? The providers of those services need to be able to better articulate a proposal.
> We are segregated around class, race and economics and we need to make this technology worthwhile to them. We need to bring everyone up to speed, the technology enables a dialog. "we need to create an equal table in an unequal society". Blacks and Hispanics aren't always at the table. The technology needs to be relevant to people before they use it.

**Funding**

- Funding is allocated politically and has excluded the broader community.
- Funding comes through the political process. Policy makers, administrators of programs need to get involved with state agencies to allocate funding to the type of projects that will get technology to the underserved.
- We need to be involved in the budget process to make sure that the programs are structured to deal with the inequities of the digital divide. The community needs a better understanding of the budgeting process to be able to better influence decisions.
- We need to attract the private sector to invest in those grass roots organizations.
- Need to look at institutions that successfully leverage more funds and redeploy current resources.
- Use the technology to track how legislators are voting on budget allocation on related issues.

**Training/Teaching**

- We need to teach the basic tools, to help people find jobs. Focus on the needs of the underserved for application. Need to focus on context, deliver training that people who don't have access to technology want.
- You need the skills, and then the experience to use it and the community needs to support that individual in using that application.
- Educate people about the significance of the technology, whether they like it or not.
- Proper training . . . step by step. Not just sitting there.
- Use the master gardener model; use volunteers to teach each other. People share back their knowledge; you amplify the investment in time and dollars.
- Having a person in the lab to support user questions while they are using the equipment.
- Provide culturally sensitive technical support.
- A mobile unit to use as a teaching lab in rural places, maybe in urban places too.
- Training is the important element of proper use. What kind of training. The chicken and the egg problem—users must know how the tools work to know how to use the tools.

**Build Partnerships**

- When people don't see themselves in the process, they don't contribute. They have to see themselves in it, in order to participate. End user must be there.
- We need to be more involved in that whole system to make it work.
- Underserved rural communities, inner city minority and disabled have a common self interest in terms of this collaboration.
- We learn from each other, peer-to-peer mentors, newsletters and other collaborative efforts.

## Create Awareness

- Chicago based community organizations aren't clear about what is the Digital Divide? Or what is a CTC? This means that some programs are slightly off-target. Organizations may have missions related to social justice, literacy, etc. rather than a clear goal toward improving the use of technology. Grass roots communities need to see better goals.
- Involve celebrities, national and local to mentor users, or used in publicity to increase familiarity.
- Do people understand what computers can do?
- Carbondale using self-assessment to see where they are. Monthly breakfast forums address issues such as, egovernment, ecommerce, hardware and connectivity questions. These forums serve to encourage discussion and collaboration as participants learn about key technology issues in the region.
- CTCnet needs to take research information about what didn't happen and share it with rural areas.
- It used to be "build it and why will come" no longer that way, that's why it is not about supporting CTC education facilities to build demand.
- Going out to the community, working with business owners.
- Outreach, determine what the community needs one on one.
- Need to sell Internet's usefulness.

## Eliminate Community Differences

- Extreme disconnect among our neighborhoods. Use communications technology to help people increase knowledge level on each block. Block leaders could keep in touch.
- Compare urban and rural community to see what works. Create a model and then test it.
- In southern Illinois there ain't no amount of money to get DSL to my house.

## Infrastructure and Equipment

- Wire an entire community. They did this in St. Paul.
- Accessibility is the main issue, but having the right equipment also counts. Having up-to-date equipment, the issue is accessibility to adequate piece of equipment.
- Also accessibility to the Internet, broadband Internet
- Making equipment more productive by making it accessible to high speed.
- Must be affordable. Institute an affordable pricing policy.
- In Ohio, they provided the infrastructure through public policy but the demand must be there.

## Making it a priority

- Leadership is key.
- Make the information economy a priority in institutional settings.
- Making a priority of communications and Information technologies.

- Need the support of the education sector to back programs.
- It's about leadership, whether if in the corporate sector or government

**Other**
- Create programs should be wide-ranging, based on a learning community model.
- Promote email access from the home.


**Question 4: Community technology centers provide a community or neighborhood an accessible educational facility where computers, related communications technologies, training and technical support are available to people who otherwise might have little or no opportunity to use or learn to use these technologies. _What kinds of programs should be offered at these centers? Who are their potential users?_**

**Programs**
- The skills they teach to the minimum are tactile, developing a comfort level with the computer, what is the start button, drop down menus, etc. But, yes, they need to know how to read in English first. They have to be able to understand the computer well enough for the instructor to be able to provide directions – go to file, open, etc.
- The users need a core set of understanding potential users need when they walk into the classroom (question about what basic skills users would have). CTCs need to get a person to a minimum point to be trained, once they have met this minimum requirement, they can be trained anywhere. Getting people to this minimum is what we need to be teaching.
- Teaching people how to put together/upgrade the hardware has helped one.
- People can't jump into an instructional setting without the basics.
- The terminology in the instructional manuals are difficult, therefore you need hands-on and then following the manual.
- Learn how people learn to use technology.
- People don't understand the basic terminology – format, file, insert, macro, html etc. We need to teach them what these words would mean. Even when teaching in Spanish, we need to teach those words in English. We need a dictionary.
- Look at innovative programs for delivering technology, such as Timedollartutoring.org where if students tutor someone for 100 hours they each get a new computer.
- "Any program to help people gat a job."
- Basic word processing, spreadsheets, etc.
- Thousands of jobs went unfulfilled because there weren't enough people with those basic computer software skills.
- General overview of computers is what people need because the people will get trained specifically for their job – "sometimes".
- How much time spent on building basic literacy, which is only one piece of the puzzle.
- GED, literacy – Is there training to provide literacy education?
- Job readiness classes.

- One on one mentoring.
- Build self-esteem, build curiosity.
- Homework help after school.
- Programs to help farmers improve their productivity.
- The types of programs needed should be dictated by the needs of the neighborhood. At participants center the need is for workforce development. The user must be able to articulate what they want to do and the center must know how to provide the appropriate training. Programs should be offered in small slices, allowing the user to feel comfortable.
- CTCnet will provide materials for shared training.
- Must track needs of people coming to CTCs.

**Users**

- We need to go back into our communities and encourage more people to be mentors for using the technology. How do we access retired technology workers to participate/volunteer in these programs?
- Businesses
- Those that need job readiness training.
- People looking to be entrepreneurs.
- Those wanting to upgrade their educational qualifications.
- Seniors and retirees.
- Youth, exploring how high school youth can get exposure to equipment and advanced technologies.
- Disabled.
- Other not-for-profit organizations, larger not-for-profits could provide training for smaller organizations.
- Farmers.
- Parents of kids who are using computers.
- Entrepreneurs
- People afraid of using computers and technology.
- Institutional users.
- People without access to Internet and communications technology.

**Other**

- Everyone learns in a different way.
- Allow an environment with a creative outlet to allow them to explore.
- Some groups are missing out because they don't have access or they have access but don't realize it.
- Computers are integrated in all basic subject training.
- Program is successful if participants come back for more classes.

- ⟩ Goal is to find a corporate private funder which allows you to be more creative with how you spend the program money.
- ⟩ There is no need to market services, clients learn about the program from word-of-mouth.
- ⟩ In a rural setting, you mabe be 40 to 50 miles removed, so the issue may be connectivity (CTCs providing connectivity). Whereas in the urban setting, the barriers may not be distance but may be safety.

**Question 5: Community Technology Centers are only one entity working to eliminate the digital divide.** *What other community organizations are working toward similar goals* **and how should Community Technology Centers work with them?**

**Schools**
- ⟩ Schools have access through universal access rules, but they close at 3 p.m. because they can't afford the janitorial staff. Those school labs can be used to help community members learn new skills, help kids with homework, research etc.
- ⟩ Schools spend lots on labs that are empty many hours. How do we share bandwidth with CTCs.
- ⟩ The schools don't know how to do this, how to share bandwidth?
- ⟩ Schools are opening their computer labs for public access in after school hours.
- ⟩ Participation has to start at the school board level to get them to participate in these types of programs. (Survey question, is the school board involved in CTC activity?)
- ⟩ Get the kids involved with service learning and other projects.

**Libraries**
- ⟩ Libraries, the Gates Foundation has laid the groundwork to get them started with equipment, money contingent that the institution must sustain the effort.
- ⟩ does the library have people there to help them with using the computers.
- ⟩ Librarians, Prairienet, etc. active in community development.

**Telcos and ISPs**
- ⟩ The role of telcos and ISPs is to provision the service. There is not a lot of disposable cash for the telecom industry; therefore, they don't feel comfortable with providing advanced services in the marginal areas. Their business is based on selling access so it is in their best interest to support CTCs, and other groups that provide access.

**Higher Education**
- ⟩ University partners, community colleges, have been good partners with CTCs.
- ⟩ University of Illinois Extension has included an urban mission, as well as, 4-H, Internet Masters training.

**Public Sector**
- Work with State employment office and the Workforce Investment Act.
- Working with the Chicago Housing Authority, Don Samuelson's effort to wire all the apartments.

**Funding**
- Could be better coordinated.
- Community colleges like to see the Illinois funding initiatives where you can target your grant writing efforts.
- Funders are very vague in what they need; therefore it is hard to write grants to those programs.

**Private Sector**
- We need private sector partners. Industrial groups, Chambers etc, ought to address capacity building since their future workforce depends on it.
- How do we interest the private sector, it becomes time intensive to approach them.
- Global companies are out there looking for real people; they want residents on line so that they can make money. Now I have a partnership with a company who is interested in helping poor children.
- Look for private sector partners.
- Chambers of Commerce.

**Need More**
- Need more outreach, employment services, homeless access. Clients need to check email to check job placement.

**Other**
- As neighborhoods are being gentrified, the digital divide funds that helped support technology at local schools are now going to upper middle class kids who are now living in the changing neighborhood.
- HUD neighborhood networks, faith based outreach centers are doing similar work.
- Illinois Century Network is supposed to be providing backbone for not-for-profits. End users were supposed to build the last quarter mile… this provided access to many places. Builds upon and complements ICN.
- African American communities are looking for economic development, jobs and paths to success. We had to price out the drug dealers. Look at "Intel Clubhouse" to see model.
- Senior Centers
- Target welfare to work clients. Continue outreach with other organizations.
- T1 lines to apartments and it's cost is included in the price of rent.
- Many agencies and organizations are given computers but don't know how to use them.

"I do this because my mother had a bad experience picking cotton and she got cheated . . . and now I work to educate so that people don't get cheated anymore."

## Question 6: If you were to define success for Community Technology Centers, what would be at the top of your list?

**Monitoring and Tracking Use**
- Customer accounts management, tracking. Get potential users through the door and track what they do. How many come through the system.
- DCCA does require information about numbers of users served, but may not be indicative of success.
- Number of constituents served.
- Level of occupation in the Labs, how busy they are in offering classes.
- Number of users who return to take other classes.
- Physical access to computers.
- Time spent in the lab.
- Increase in use leading to greater demand for services.
- Increase in computer ownership.
- Non-customers setting up their home computers.
- ISP's see growth and more ISPs enter the market.
- For every computer in the center, there is a person to use it.

**Skills**
- Assessing changes in skills.
- Match goals and outcomes to that of the CTCs
- How many clients become volunteers in the labs.

**Funding**
- Sustainability in funding

**Improving Quality Of Life And Economic Position**
- See that students are using their knowledge; they are successful in their careers. Are we tracking how people use the technology?
- Is the technology effective in the community for housing development, community development, etc?
- Do users find employment?
- Success stories on how the CTCs have changed people's lives.
- How it changes their lives.
- How they can give back to the community . . .economic gain.
- Improve self-esteem.
- Acceptance of services in the community.
- Cultural changes.

➤ Use to help with social needs and employment.
➤ Graduates of the center become so successful that they don't need CTCs.

**Other**
➤ Having a portal entry point where the community owns the website, where we have 10,000 email address in a geographic area and leveraging that with the legislators.
➤ DCCA's 12 categories of benchmarks
➤ Unique to each application.
➤ Labs are run by residents or users.
➤ Use testimonials: I didn't even know how to turn the computer on and now I can do something big. People are happy to share their success.
➤ Increase in infrastructure – computers, access, etc.
➤ CTCs which received their funding should build the capacity in the community.
➤ Networking among local organizations, health, schools, etc. Is this networking happening? Networking or collaborating with other organizations not necessarily sharing files.
➤ Internal document networking. Security would be an issue, larger companies have firewalls etc. We can't stop sharing information because we are afraid. This is America – we have to share knowledge.
➤ CTCs are community owned.
➤ Offer free tax service to draw in other users, a different sector of the community.

**Question 7: If a community had a strategic plan to make sure that every household or business had the opportunity to get Internet access and training, what type of things would be included in that plan?** *What is the most important? Who should be included in the development of that plan?*

**Sustainability**
➤ Plan has to be income based, must have a sustainable stream of income.
➤ Must have a sustainability plan.

**Capacity**
➤ Ability for teleconferencing among various CTCs

**Comprehensive Nature**
➤ Integrate into the strategic plan how technology can move the community in economic development.
➤ Have the "overall picture" organizations need the perspective of policy makers.
➤ Define community in terms of constituents not geography.
➤ Need broad based involvement.
➤ Plan at the community level and must involve more then just commercial providers.

> Plan needs to be driven by the users, not technical experts. The government must be involved and the business community.

**Assessment of Need**

> Community of constituents, CTCs, YMCAs, Boys and Girls Clubs and other institutions to survey level of services.
> Based on self-assessment, where the need is.
> Look at what we already have, what could we do better or use better.
> Identify geographic areas that lack access.

**Other**

> Need consistency of technology availability.
> Set Priorities and then see who is at the table.
> It becomes a very large team, public and private sector. Some will benefit and some will be hurt by change.
> CTCs should work with planning commission to identify service gaps and get with the rural people and develop a plan.
> Geographic location does matter; there is a preference to get training locally.
> "Someone big knows everything, I want to know what services are offered, even though I'm not part of the big picture."
> Whose responsibility is this? The government's or the private sector's?
> Like the highway model, it must be publicly funded, public control of regulation.

## How Stakeholders Define the Digital Divide

The objective of the focus group discussions and the supporting activities was to enable stakeholders to create a shared understanding of what is the digital divide that can be used to build an evaluation strategy of quantifiable performance indicators to measure how well this program contributes to eliminating it. The stakeholders presented many different, and often complementary perspectives, about how they perceive the existence of the digital divide and what strategies are needed to minimize the gap between people who have access and who can effectively use communications and computer technologies and those who cannot and who do not have access.

Defining the digital divide focused on the inequality of human capacity and digital literacy skills. Furthermore stakeholders emphasized that the definition of the digital divide extends to not only individuals without access or skills to use communications and information technologies but also to businesses, schools, organizations, and governments. Eliminating the digital divide is about accessing the Internet and its resources; about using telecommunications and computer technology to communicate and create; about creating and building knowledge to effectively function in today's economy; and finally it is about creating a better community and improving the quality of life for all Illinoisans.

## Implications for Program Evaluation

The discussions clearly implied that emphasis should be less about measuring the elimination of the digital divide and more about measuring change in the cultural aspect of communications and information technologies adoption. Specifically focusing on 1) the diversity of users; 2) knowledge gain; 3) building user self-esteem and comfort level in using computer and telecommunications technology; and 4) the community provides services to all users with respect to business, education, government and social services.

1. **Measuring the Diversity of Users**
   Traditional digital divide elimination strategies have targeted low-income populations and minorities. The focus group discussions validate the importance of these strategies and further emphasize targeting computer literacy programs that meet the needs of people searching for jobs, seniors, disabled, youth, farmers, entrepreneurs, businesses and institutional users working in organizations not yet computer ready.
   *Performance Indicators:*
   - Number of participants in classes categorized by age, life stage, education level and income;
   - Number of participants with a physical or mental disability;
   - Number of organizations whose staff is participating in computer literacy training;
   - Number of courses (and number of participants) offered to meet the functional needs of business entrepreneurs, farmers, not-for-profit organizations, etc.

2. **Measuring the Change in Users' Literacy Skills**
   Measuring the knowledge level of participants' computer literacy must be benchmarked and monitored over the extent of the project. The digital literacy survey can be used as a guide to assess mean change of people's skills.
   *Performance Indicator:*
   - Average scores on participant knowledge assessments measured every 6 months.

3. **Measuring Improvement of Users' Self Esteem and Self Confidence in Using Communications and Information Technologies**
   Overwhelmingly focus group participants referred to building self-esteem and eliminating the fear of using computers and telecommunications technologies as a priority of strategies targeting the elimination of the digital divide. Computer literacy programs need to target enhancing this less tangible attribute of successful computer and telecommunications users.
   *Performance Indicator:*
   - Self esteem index—a survey to measure average user comfort level in using computer software and hardware. Survey administered to participants at regular intervals to measure change.

4. **Measuring Community Integration of Communications and Information Technology**
   Both rural communities and inner city neighborhoods are struggling in providing digital services. Measuring how well a community is investing in providing services to assist

businesses, government, social services and education communications and telecommunications can reveal the extent of the digital divide addressed in the community.

*Performance Indicators:*

- Community sponsored classes to build digital literacy skills;
- Availability of online government services;
- Change in the Telecommunications Readiness Index (TRI) http://www.communitydevelopment.uiuc.edu/tcii/;
- Existence of a strategic plan targeting telecommunications and computer technologies.

## Appendix I: Agenda

# *Agenda*
## *Tuesday, October 1, 2002*

| Time | Project Team Members | Project Stakeholders |
|---|---|---|
| 9:30 – 10:00 | Coffee and networking | Continental breakfast and organization into focus groups |
| 10:00 – 11:45 | Introductions<br>Creating work plans for operating committees<br>1. Member Services<br>2. Connectivity<br>3. Sustainability<br><br>Report on group activities and introduction of Management Committee | Focus Group Discussions |
| Noon – 1:15 | Lunch and Speaker (The Value of Electronic Knowledge Networks) | |
| 1:30 – 3:00 | Open space forum exploring what makes an electronically connected team and identifying the strategies and skills we need to build it.  Facilitated Discussion:<br>1. What is an electronically connected team?<br>2. What makes an effective electronically connected team?<br>3. Why is it important to have an effective electronically connected team?<br>4. What strategies do we put into practice to ensure we have an effective electronically connected team? | |
| 3:00 – 4:00 | Project members divide into committees to discuss future strategies | |
| 4:00 – 5:00 | Consortium Business Meeting *(Project members only)* | |

# Appendix II: Digital Literacy Survey

| For people to be digitally literate, how important is it that they have the following skills? | Mean Response[1] |
|---|---|
| Send or read email | 4.75 |
| Do online research for school or work | 4.70 |
| Look for a job online | 4.45 |
| Use word processing software | 4.42 |
| Read a newspaper or magazine online | 4.40 |
| Install software | 4.30 |
| Look for a product online | 4.30 |
| Use the Internet to look up health or medical information | 4.05 |
| Find financial information online | 4.00 |
| Use the web to look up local community events (movies, festivals, sports) | 3.95 |
| Take a class online | 3.90 |
| Use the Internet to look for information about a hobby or special interest | 3.74 |
| Send "instant messages" | 3.65 |
| Promote my own business on the Web | 3.60 |
| Use electronic spreadsheets | 3.58 |
| Buy a product online | 3.47 |
| Find travel information online | 3.45 |
| Share files from my computer (music, videos, pictures) | 3.45 |
| Use the Internet to look for religious or spiritual information | 3.26 |
| Take part in chat rooms or online discussions with others | 3.21 |
| Store files at a remote Internet site | 3.05 |
| Get photos developed or store and display photos online | 3.00 |
| Listen to music online | 3.00 |
| Check weather reports online | 2.95 |
| Make an online phone call | 2.90 |
| Watch or download a video clip | 2.89 |
| Create web pages | 2.80 |
| Check sport scores on the WWW | 2.75 |
| Create a website to promote an opinion or "point of view" | 2.70 |
| Download music files | 2.70 |
| Use web development software | 2.61 |
| Manage a listserve or chat | 2.40 |
| Create HTML files | 2.25 |
| Play games online | 2.20 |
| Create and distribute an online magazine | 2.10 |

[1] Where 5 is "extremely important" and 1 is "not at all important".

| For people to be digitally literate, how important is it that they have the following skills? | Mean Response[1] |
|---|---|
| Write programming scripts | 2.00 |
| Use the Internet to play a lottery or gamble | 1.89 |
| Administer a server | 1.42 |

# Appendix III: Focus Group Questions

1. There is a gap between those people and communities who can effectively use information technology and those who cannot.  The term "digital divide" not only refers to access to the Internet, but also to the gap between people who can effectively use new information and communication tools, such as the Internet, and those who cannot.  ***Should we care about the digital divide?  Why?***

2. Although there is no consensus at to the extent of the digital divide, how do we know if we've eliminated this gap?  How do we know if there is no more digital divide?

3. What is the most important thing we could do to help people use new information communications tools better?

   ***Probe:*** How do we build capacity to improve how people use Internet, email, effectively? What barriers do we need to overcome to get people to use communications technology better?

4. Community technology centers provide a community or neighborhood an accessible educational facility where computers, related communications technologies, training and technical support are available to people who otherwise might have little or no opportunity to use or learn to use these technologies.  ***What kinds of programs should be offered at these centers?  Who are their potential users?***

5. Community Technology Centers are only one entity working to eliminate the digital divide.  What other community organizations are working toward similar goals and how should Community Technology Centers work with them?

   ***Follow up:*** In some communities after school programs, libraries, senior centers, Internet providers, telephone companies, community colleges and universities, State agencies (such as the DCCA Digital Divide Elimination Programs) make investments to communities to enhance access and improve the way people use Internet, email and other communications technologies.

6. If you were to define success for Community Technology Centers, what would be at the top of your list?

7. If a community had a strategic plan to make sure that every household or business had the opportunity to get Internet access and training, what type of things would be included in that plan? ***What is the most important?  Who should be included in the development of that plan?***

The LABORATORY FOR COMMUNITY AND ECONOMIC DEVELOPMENT coordinates research and educational programs in community and economic development at the University of Illinois at Urbana-Champaign.  The Laboratory's staff work with researchers, economic development practitioners, business leaders, Cooperative Extension Service Educators and others across the country, bringing information and expertise to state and local policy makers, agricultural and business leaders, community leaders, and Illinois citizens.  Programs sponsored by the Laboratory for Community and Economic Development help community decision-makers by increasing their capacity to choose among and implement development strategies.

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