

**Getting  
Communities  
Involved**

**in**



Ellen Wahl  
Laura Jeffers

*EDC's Center for Children  
and Technology*

**ACCESS** *by Design*

**TECHNOLOGY IN SERVICE TO COMMUNITY**

# ACCESS BY DESIGN

<http://ehrweb.aaas.org/accessbydesign/>

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**EDC's Center  
for Children  
and Technology**

96 Morton Street  
New York, NY 10014  
212-807-4200  
212-633-8804 fax  
[cct@edc.org](mailto:cct@edc.org)  
[www.edc.org/CCT/](http://www.edc.org/CCT/)

**American Association  
for the Advancement  
of Science**

Directorate for Education and  
Human Resources Programs  
1200 New York Avenue NW  
Washington, DC 20005  
202-326-6670  
202-371-9849 fax  
[ehrwebmaster@aaas.org](mailto:ehrwebmaster@aaas.org)  
[www.ehrweb.aaas.org/ehr/](http://www.ehrweb.aaas.org/ehr/)

**Campbell-Kibler  
Associates, Inc.**

80 Lakeside Drive  
Groton, MA 01450  
978 448-5402  
978 448-3767 fax  
[campbell@campbell-kibler.com](mailto:campbell@campbell-kibler.com)  
[www.campbell-kibler.com](http://www.campbell-kibler.com)



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# Getting Communities Involved in Addressing Technology Access



*Why  
Take  
Action?*

Technology is everywhere. Computers, the Internet, automatic teller machines, electronic fare cards for public transportation, scanners at the cash register—our daily lives are increasingly intertwined with these new tools. The current technological revolution is changing the way the world operates. We may like some of these changes better than others, but whatever our feelings, the “e” world<sup>1</sup> is here to stay.

Some communities have more access to the new technologies than others, and there is increasing evidence that there is a growing “Digital Divide.”<sup>2</sup> As technology and facility with technology become essential to daily survival as well as long-term community development, the inequities grow ever more worrisome.

How can we exert some control over this technology, and make informed decisions? What can community organizations and local leaders do to help people become knowledgeable and active on behalf of themselves and their communities?

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<sup>1</sup> “E” is short for “electronic.” We will try to define all technology jargon and abbreviations.

<sup>2</sup> The “Digital Divide” refers to the gaps in access to the new technologies by different demographic groups; arguments and data that support this notion have been collected by the Department of Commerce, National Telecommunications Information Administration, in the *Falling Through the Net* series (U.S. Department of Commerce, 1401 Constitution Avenue, NW, Room 4096, Washington, DC 20230, phone 202-482-2048, fax 202-501-5136, <http://www.ntia.gov>).

## *About This Guide*

This guide is directed to community leaders, organizations, and those interested in promoting a community voice in the technology revolution. It grew out of conversations with people from community organizations across the country. We heard many different views about technology and its potential benefits and dangers, and each conversation added a new twist to the tasks and dilemmas around increasing access to the new technologies. Folks told us what they were worried about and where they could use help.

In this document, we offer general advice and an overview of strategies that can help you advance access. It is the introduction to a collection of materials that go into greater depth about the issues and processes. For example, we give you an idea of why you might want to organize community conversations about technology and what's involved. A separate publication provides step-by-step guidance for actually conducting these conversations.

Every group has its own way of doing things. Set up a process that makes sense according to the way you normally do things, and adapt our suggestions to the values, norms, and modes that are important in your culture and community.

Note: In some places, we recommend websites that you can visit on the Internet for information. All the ones we've listed were in operation when this document went to print, but bear in mind that websites come and go. We have also listed the name of the organization and contact information for securing materials by phone or mail, if you prefer to have the actual printed versions or if you don't have access to the Internet. If you're not connected and want to get to the material online, your local library may offer public access to the Internet.

## *Three Suggestions*

As you begin to talk about technology in your community, you may want to keep these three things in mind:

- Put mission and needs first, technology second.
- Demystify the technology, and help people see it as a tool that extends individual and community capacity.
- Provide space and support for people to examine the very real concerns that these new tools bring with them.

“

*We need to take this on because our community will be looking to us for leadership.*

—Frances Lucerna, Principal  
El Puente Academy for Peace and Justice

”

## *Figuring Out Your Role*

Communities need guidance in managing the changes brought by technology. They need leaders and spokespersons who can address the access and equity issues. Community organizations, often advocates for ensuring the rights and participation of diverse groups, can make a big difference in this new arena. How can you integrate technology access concerns into your ongoing work?

Consider the roles you might play to help your community deal with access to the new technologies. Your organization could serve as a:

- Provider of information, knowledge, training, programs
- Location for a “community technology center,” where people get access to the hardware and software<sup>3</sup>
- Developer/coordinator of a community-wide technology plan
- Advocate and policy activist
- Coalition organizer
- Place where people can raise issues and talk.

Look at these possibilities in light of the functions and services you already perform, the relationship you have to those you serve, and what they expect from you. To the degree that your knowledge of the technology’s potential allows, try to envision how your current efforts might be extended. For example:

- *People come to your agency for job training and GED classes. You decide to organize workshops that focus on the changing nature of the labor market and the economy, and to conduct classes to help participants gain the technical and process skills they’ll need to get jobs now and in the future.*

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<sup>3</sup> Community technology centers, or CTCs, are an increasingly popular strategy for providing public access. Government, foundation, and corporate funds are available for creating these centers.

- *As a haven for women with HIV and their children, your community-based center provides nutrition and health counseling as well as bereavement services. You plan to use technology to connect the agency and your clients so you can get up-to-date information about the latest medical developments, compare prices and purchase treatment drugs online for less money, extend support groups to include virtual communities and online networks, and create videos that can be living legacies for surviving children.*
- *The migrant children who travel with their families from Mexico through California and to other states move from school to school during the course of the growing season. Children's health and education records don't travel with them automatically—districts have to write for them and families have to keep track of them. If the immunization record isn't available, the child can't register for school, and without academic records and teacher comments, the school can't judge the child's educational level and what he or she needs. By the time the school completes its assessment, the child has moved on. You and your staff at the Migrant Education office decide to develop a system to maintain the information online and make disk copies for the families to carry with them.*

## Getting Up to Speed

Many people feel they don't understand technology well enough to be able to make reasonable judgments. There is a lot to think about and a whole new vocabulary that seems to expand daily. You need quick, efficient ways to learn about technology—its potential as well as its technical and organizational requirements—and about the policy and educational issues that may have an impact on your community.

What do you need to know about?

- Vocabulary
- The technology itself and how it works
- Policy issues that might have an impact on your community's interest
- Interesting uses of technology by community groups
- Dilemmas facing community groups
- Sources of funding.



**Vocabulary.** The lingo can be daunting and the alphabet soup is worse than that of government agencies, but it's just words. Some of the words are newly coined while others have been appropriated from regular English to refer to some aspect of the new technology. Glossaries can help you demystify the jargon and prevent the language from excluding you and your constituents. We have included a printed glossary in the *Resource Kit*, and dozens of glossaries are available on the Web if you have access.<sup>4</sup>

**The technology itself ... and how it works.** You need to know enough so that you can think about

- What it might be good for
- The potential uses for your community
- What, if any of it, to spend money on.

It is advisable to think first about what you might want to use technology for, so that your need drives your learning process. For some people, playing around with machines and tools is fun in and of itself, and the exploration leads to revelations about applications. It helps most people to get their hands on the actual equipment, so schedule a field trip to the library or local community technology center where drop-in users and first-time users are welcomed; visit computer stores and find a good salesperson willing to share her or his knowledge; find the self-taught techies among the young people or other members of your community and ask lots of questions; read through technology magazines like MIT's *Technology Review*; set up a hands-on workshop with borrowed equipment.

You'll probably want to know something about what's available in:

- *Hardware.* Think broadly about digital technologies, not just computers and printers and scanners but also cameras, recorders, personal digital assistants (PDAs), and beepers.
- *Software.* You don't need to be a walking catalog, but it will help to know about the range of possibilities. Software applications that do amazing things and were once available only for highly skilled, specialized personnel are now "user-friendly." Geographic Information Systems (GIS) and Global Positioning Systems (GPS) software are increasingly popular tools, not just for preventing rental-car drivers from getting lost, but also for mapping critical information that can help you take action in your

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<sup>4</sup> See, for example, "Walt's Navigating the Net Forum, Glossary of Internet Terms," <http://winfiles.cnet.com/connect/glossary.html>; and "Matisse Enzer's Glossary of Internet Terms," <http://www.matisse.net/files/glossary.html>.

community. Local 4-H Clubs are using GIS, for example, as part of their process to chart the resources in their local areas and create a community development plan.

- *Connectivity.* What does it mean to be connected to the Internet? What are the choices now for getting physically connected—telephone lines, cable lines, wireless technology—and what’s likely to be the best (fastest, most reliable, cheapest?) for the future? How do you select the right “ISP”—Internet Service Provider—that, like a phone company or utility company, makes it possible for you to actually use the physical connections to navigate the Web?

Note: Whatever we write now will likely be old hat by the time you read this. The rapid pace of development means that most people can’t stay up to date, even the so-called experts. Don’t be embarrassed to ask questions. Even if you yourself understand, ask on behalf of others who might not, and promote plain speaking. Otherwise, some people are excluded, and this seriously inhibits efforts to increase access both to the technology and to the information necessary to make informed decisions.

**Policy issues that have a potential impact on you and your community.**

Decisions are being made by government and industry that you might want to know about, so you can inform your community and, if appropriate to your mission, take action. For example:

- *Universal service:* The government guarantee dating back to 1934 and updated in 1996 that all are entitled to access to telephone service at an affordable rate. The 1996 law did not guarantee access to more advanced telecommunications, and this question is now a matter of public debate.
- *Privacy protections:* How secure information is about you—and where you travel on the Internet.

Information about some of the major issues is included in the *Resource Kit*. For a central place to get connected to information about the Digital Divide and what you can do about it, look up the Benton Foundation and the National Telecommunications and Information Administration of the U.S. Department of Commerce, where you can find the latest reports on the situation.<sup>5</sup>

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<sup>5</sup> Benton Foundation, 1800 K Street NW, Second Floor, Washington, DC 20006, phone 202-638-5770, fax 202-638-5771, <http://benton.org>; NTIA, U.S. Department of Commerce, 1401 Constitution Avenue, NW, Room 4096, Washington, DC 20230, phone 202-482-2048, fax 202-501-5136, <http://www.digitaldivide.gov>, <http://www.ntia.gov>, <http://www.ntia.doc.gov/reports.html>.

**Interesting community-based uses of technology.** There is a growing collection of good examples of different groups' experiences, positive and negative, with integrating technology into their work. Look for examples of programs funded by the W. K. Kellogg Foundation's technology initiative in rural communities and TOP (Technology Opportunities Program, formerly TIAAP) of the Department of Commerce.<sup>6</sup> The Benton Foundation publications and website also contain numerous program examples that may be useful for inspiration and ideas about what you might do in your community.

**Dilemmas facing community groups.** The new technologies present serious challenges, especially to communities that are poor, minority, non-English-speaking, or disenfranchised because of who they are or where they live. We have collected examples and practical approaches for coping with these dilemmas. See the Access by Design publications listed at the end of this guide for perspectives on:

- *Cost, utility, and value.* Equipping and maintaining a technology infrastructure requires a capital outlay and rebudgeting process that places tremendous pressure on communities and organizations with scarce resources. The choice of ensuring access may need to be weighed against a drain on other services that the commitment may require.
- *Obsolescence.* Once equipment is purchased, what guarantee is there that it won't be out of date before it's out of the box?
- *Discord or harmony: Culture and technology.* The technology may change the way people do things. Some groups find that new technologies can support their culture's values and organizational missions while others see these tools as a threat to the values they hold dear.

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<sup>6</sup> MIRA, or Managing Information in Rural America, W. K. Kellogg Foundation, One Michigan Avenue East, Battle Creek, MI 49017-4058, phone 616-968-1611, <http://www.wkcf.org/ProgrammingInterests/FoodRur/MIRA/>; Technology Opportunities Program, Office of Telecommunications and Information Applications, National Telecommunications and Information Administration, U.S. Department of Commerce, 1401 Constitution Avenue, NW, Room 4096, Washington, DC 20230, phone 202-482-2048, fax 202-501-5136, <http://www.ntia.doc.gov/otiahome/top/index.html>.

**Sources of funding.** You may want to do an initial scan of the funding situation, because that too can help you think about what you need to know in order to be able to move forward and secure resources. Start with the website, Closing the Digital Divide ([www.digitaldivide.gov](http://www.digitaldivide.gov)) and the Benton Foundation Digital Divide Network (at <http://www.digitaldividenetwork.org>), which contain information on sources of funding and grants competitions as well as activities around the Digital Divide generally (see footnote #5 for further contact information for the Benton Foundation). If you can get access to the Web, you can follow the links and find many more resources.

You don't need to know it all, especially if you have others around you who can divvy up the learning—or who already have interests and expertise. You can start with what's most interesting to you. Ask questions and don't be afraid to sound dumb. There will always be someone else in the crowd who is relieved that you have the courage to ask what a URL is (Uniform Resource Locator, which is what the address for a website on the Internet is called).

## *Demystifying the Technology*

If we want to take back some control over technology decisions, it helps to take the mystery out and remind ourselves that technology is nothing but tools:

- Tools extend human capacity
- Tools are invented and made by people
- Design is often arbitrary.

We've found it really helps people to see technology as a continuum from simple to more complex tools. The simpler tools are easier to observe in action than the digital ones where you can't see the typewriter key hit the ink and then hit the paper. But once people have an idea that these are not creatures from an alien planet but regular everyday stuff, they usually feel more ready and willing to take charge of decisions and consider how the technology can really serve them.

We've tried a number of strategies that seem to help people to feel comfortable discussing and engaging with technology:

- *Define technology as tools that extend human capacity.* Identify your focus of attention as the digital tools and telecommunications connections to which some groups are gaining more access than others.
- *Conduct discussions that allow people to share their perceptions and fears about technology.* Let people know their concerns are legitimate and important.
- *Set up hands-on workshops and opportunities for people to play with both simple tools and computers as well as other digital equipment.* Offer workshops on navigating the Internet at locations that are already equipped and willing to share.
- *Don't sell people on the technology.* Encourage folks to be skeptics and to question the design as well as the function of different tools. It may be helpful to introduce the importance of “media literacy,” the ability to be critical viewers, listeners, and analysts of the information that bombards us through the media of our day—print, radio, TV, video, and online environments.<sup>7</sup>

## Organizing Community Conversations

How do you tap into community members' concerns about technology access—or spark their interest enough to decide whether they need to get involved? With partners from community organizations, we developed a process that seems to be adaptable to groups of varying size, location, and culture. The idea is to help your own organization and the wider community become informed about technology issues and choices, so you can be proactive decision-makers.

A community conversation can have any number of purposes, but the point is to start people thinking, talking, and acting. The recurrent theme is that need, function, and mission come first, and technology decisions follow from clarity about what you want to do and why.

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<sup>7</sup> For a quick overview, see *Media Education: Five Essential Questions*, by Bill Tally, which is included with other Access by Design materials. For a more comprehensive examination, see C. Brunner and B. Tally, *The New Media Literacy Handbook*, New York: Doubleday, 1999.

The conversation can be a one-shot deal or a series of meetings. It can begin with a small group within your organization and expand to wider circles within the agency and in the larger community. Or it can be a major event with 25, 100, or more participants, again depending on how you go about things in your community. One minister, for example, envisioned gathering his congregation of several hundred parishioners, and the leader of a northeast Indian Council that represents the Indian nations in a tri-state region imagined a multi-day gathering of over 1,000 people at his ranch. A Brooklyn community agency chose small meetings of six to ten people from the departments within their organization, prior to conducting a larger community meeting.

The process is especially useful for those with little background in technology, and for building knowledge, capacity, and a core of activists at the local level. It can help prepare people to participate in broader policy arenas (for which you may want to refer to such resources as the Loka Institute,<sup>8</sup> “Town Meetings on Technology,” *Technology Review*, July 28, 1996). Though the format and atmosphere are up to you, this process works well in the context of an informal, relaxed, and unthreatening environment. You may choose to have presenters or formal panels, but the important thing is that people feel comfortable about sharing their questions, what they don’t know, and their confusions as well as their expertise and resources.

The process, described in greater depth in *Technology in Your Community: Organizing Community Conversations*, includes:

- *Preparing for the conversation.* How to recruit participants, select focus, set up the logistics, develop informational materials, and make it compelling.
- *Conducting the conversation.* Strategies for getting the conversation started and keeping it on track.
- *Following up.* Turning the ideas into action.

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<sup>8</sup> The Loka Institute, P.O. Box 355, Amherst, MA 01004, phone 413-559-5860, fax 413-559-5811, <http://www.loka.org>.

## *Charting Community Technology Connections*

A way to deepen the community conversation and make it a more systematic planning tool is through a process called “Charting Community Technology Connections” (CCTC). It is a variation on a model developed by the National 4-H Council and the Institute of Cultural Affairs in which community members identify and create public knowledge of the community’s cultural, historical, human, geographical, and organizational assets. One of its hallmarks is that it involves youth working in partnership with adults. Tapping the talents and energy of the generation that will have to live with the consequences of these technology decisions seems a course worth pursuing.

The CCTC process is another way to include people who are not usually part of the formal decision-making apparatus, and for bringing together the range of groups in your community. While it entails preparation on the part of the organizers, everyone will have something to contribute and learn. It can help you to produce:

- A technology plan that reflects community needs and desires
- A plan for integrating technology into ongoing community development efforts
- A community vision that can be given to a technology consultant or planner, enabling the consultant to understand the community’s views and desires, and providing the community with the means to be informed evaluators of the planner’s suggestions and recommendations.

Community members gather in a series of meetings at places that are comfortable centers of community activity. One community mapping process took place in the local diner, the most popular hangout in town for young and old alike. The products are visual maps and charts, stories, and connections that identify the resources currently and potentially available to address technology access issues. It is a dynamic and vibrant process, because it captures the past as well as the present, the social as well as the physical, the collective as well as the individual. People can see patterns of change over time and use the information to plan for technology that is responsive to the needs of all community members.

Activities include:

- *History Wall*, in which participants create a visual representation of the history of their community, including the events, economic realities, people, stories, and the technologies and tools that were dominant at the time. You'll consider when and how new tools were introduced, by whom, and, if known, with what effect.
- *Mapping Technology Spaces*, which identifies the physical locations that already provide access to technology equipment, training, and information that could be tapped for this purpose.
- *Talent Search*, which identifies the talents and contributions that individuals and organizations can bring to the enterprise.

A more complete description of the process can be found in the Access by Design publication, *Charting Community Technology Connections*.

## Getting Help

It is likely that even if you are fairly knowledgeable about the technology, you have limited time, and you'll need additional support and advice. If you've done some version of the Charting Community Technology Connections process, you may already have located people in your area who have expertise they can offer, either on a volunteer basis or for a fee. Finding consultants who really understand your situation, needs, and resources is not necessarily easy, and once you locate potential sources of help, it's important to recognize that you may need to educate them.

Community organizations and groups are likely to have significantly different needs from industry and schools, where most technology consultants are accustomed to working. *Working with Technology Consultants: Suggestions for Community Organizations* offers nine points to consider in hiring help, and *Working with Community Organizations: Suggestions for Technology Consultants* is a companion piece that you can give to consultants as a first step in teaching them about what you need and how you'd like the process to proceed.



## *Toward Technology in Service to Community*

We hope this brief guide has given you a sense of how to start the process, pursue additional information, or turn an existing effort into one that is more likely to serve your needs. The Access by Design materials listed below offer more detailed approaches to the activities suggested here, but don't restrict yourself to these. There are now many excellent materials available, and increasing attention, resources, and expertise are being brought to bear on questions of technology access and equity. It is up to all of us to marshal these resources and join them with our commitment to social justice and sustainable communities.

## *Related Access by Design Publications*

### Dilemmas Facing Community Groups

*Cost, Utility, Value* (Wahl)

*Discord or Harmony* (Wahl)

*Obsolescence* (Campbell, Kibler)

### Demystifying Technology

*Media Education: Five Essential Questions* (Tally)

### Conducting Community-Based Planning

*Technology in Your Community: A Community Conversation Guide*  
(Jeffers, Wahl)

*Charting Community Technology Connections* (Wahl, Jeffers)

### Getting Help

*Working with Technology Consultants: Suggestions for Community Organizations* (Campbell, Kibler, Jolly)

*Working with Community Organizations: Suggestions for Technology Consultants* (Wahl, Jeffers)

*Resource Kit* (Gittler, Jeffers, Anderson)

## *About Access by Design*

In 1996, Education Development Center, Inc./Center for Children and Technology, the American Association for the Advancement of Science, and Campbell-Kibler Associates, Inc., began a research and action project about the equity issues in technology. We conducted interviews with community leaders and organizations in more than 50 places across the country, in small and large cities, in rural areas and Indian reservations, with people from a range of ethnic, language, class, and racial groups. We spoke with people with disabilities and disability rights advocates, representatives from industry, community leaders and activists, youth workers and educators, funders and policymakers. We worked closely with a number of community-based and national organizations to examine the issues related to technology access, including how technology is designed and how well—or poorly—it serves diverse communities. Our partners included the Progressive Baptist Church in New Orleans, the Rhode Island Indian Council, El Puente in Williamsburg, Brooklyn, the Oyotunji African Village in South Carolina, the Accommodation Resource Center at the University of Nebraska–Lincoln, the Young Scientists Club in East Harlem, New York, the Collaborative Visualization (Co-Vis) project of Northwestern University and their afterschool career program at the Kelly High School in Chicago, and the Innovation Center for Community and Youth Development of the National 4-H Council.

The work began much earlier, however, among educators and activists in a variety of settings, including the Center for Children and Technology (CCT), established in 1980 at Bank Street College of Education and now part of Education Development Center. In pursuing how the new computer technologies could best support teaching and learning, researchers at CCT became aware of inequities in access and decisions about design that favored some groups over others, noticing first the gender issues and subsequently race and disability concerns. Yet even by 1996, relatively little attention and few resources were being dedicated to these concerns.

Access by Design was an attempt to gather together educators, activists, policymakers, and industry representatives to build awareness and action for increased equity and diversity in technology.

The products from this effort include materials for community leaders and organizations, as well as a report and action agenda based on the interviews, meetings, and policy efforts conducted from 1996 through the beginning of 2000.

# Access by Design Staff and Consultants

## Education Development Center, Inc.

Louisa Anderson  
Harouna Ba  
Cornelia Brunner, Ph.D.  
Jan Hawkins, Ph.D.  
Laura Jeffers  
Eric J. Jolly, Ph.D.  
Meghan McDermott  
Babette Moeller, Ph.D.  
Michelle Riconscente  
Shalini Shankar  
Julie Thompson  
Ellen Wahl

## American Association for the Advancement of Science

Yolanda George  
Virginia Stern

## Campbell-Kibler Associates, Inc.

Patricia B. Campbell, Ph.D.  
Tom Kibler

## Consultants

Philip Bowman, Ph.D.  
*Northwestern University*

Melinda Fine, Ed.D.

Alice Mastrangelo Gittler

Larry Goldberg  
*National Center for Accessible Media  
WGBH*

Louis M. Gomez, Ph.D.  
*Northwestern University*

Hartley Hobson, Ph.D.  
*National 4-H Council*

Christy Horn, Ph.D.  
*Accommodation Resource Center  
University of Nebraska–Lincoln*

Evelyn Roman-Lazen  
*Community Science Specialists*

Harilyn Rousso  
*Disabilities Unlimited*

Joan Schine

Kristen Spangler  
*National 4-H Council*

Wendy Wheeler, Ph.D.  
*National 4-H Council*

## Partners

Accommodation Resource Center  
*University of Nebraska–Lincoln*

American Indian Science and Engineering Society  
*Albuquerque, NM*

Collaborative Visualization (Co-Vis) Project  
*Northwestern University, Evanston, IL*

El Puente  
*Brooklyn, NY*

Gila River Indian Community  
*Gila River, AZ*

Innovation Center for Community and Youth Development of the National 4-H Council  
*Chevy Chase, MD*

Media Workshop  
*New York, NY*

Oyotunji African Village  
*Sheldon, SC*

Progressive Baptist Church  
*New Orleans, LA*

Rhode Island Indian Council  
*Providence, RI*

Santa Fe Indian School  
*Santa Fe, NM*

Young Scientists Club  
*Center for Puerto Rican Studies  
Hunter College, New York, NY*

**Access by Design Steering Committee**  
*A distinguished panel of advisers offered ideas and suggestions. Members of the Access by Design Steering Committee represented a vast range of expertise and backgrounds, and we are grateful to the following for their help. The authors, not the Steering Committee, are solely responsible for the products and outcomes of the project.*

Suzanne Benally, Ph.D.  
*(formerly with American Indian Science and Engineering Society)*

Andrew Blau  
*Markle Foundation  
(formerly with the Benton Foundation)*

Anita Borg, Ph.D.  
*Institute for Women and Technology, Palo Alto Research Center, Xerox Corporation*

Joseph Bowman, Jr., Ph.D.  
*Center for Urban Youth & Technology SUNY, Albany*

Jacquelyn Brand  
*Independent Living Network  
Alliance for Technology Access*

Iva E. Carruthers, Ph.D.  
*Nexus Unlimited, Inc.*

Carol E. Edwards, Ph.D.  
*The National Foundation for the Improvement of Education*

B. Keith Fulton  
*AOL Foundation  
(formerly with The National Urban League)*

Rev. Willie Gable, Jr.  
*Progressive Baptist Church; Ruach, Inc.;  
Dr. Murphy W. McCaleb  
Educational Fund, Inc.*

Luis Garden-Acosta  
*El Puente*

Louis M. Gomez, Ph.D.  
*Learning Sciences and Computer Science  
Northwestern University*

Allen Hammond IV, Esq.  
*Santa Clara University, School of Law*

Norbert Hill  
*(formerly with American Indian Science and Engineering Society)*

Russ Holland  
*Alliance for Technology Access*

Paula Hooper, Ph.D.  
*The Paige Academy  
(formerly with the MIT Media Lab)*

Christy A. Horn, Ph.D.  
*Accommodation Resource Center  
University of Nebraska–Lincoln*

Rahman Karriem  
*Bell Atlantic– New Jersey, Inc.*

Tom Kibler  
*Campbell-Kibler Associates, Inc.*

Stephen Kohn  
*Strategic Alliances, Bell Atlantic  
Government Relations*

D. Midian Kurland, Ph.D.  
*Computer Curriculum Corporation*

Bruce Lincoln, Sr.  
*Institute for Learning Technologies  
Columbia University*

Frances Lucerna  
*El Puente*

Sonia Nieto, Ph.D.  
*University of Massachusetts, Amherst*

Don Nix  
*IBM T. J. Watson Research Center*

Pedro Pedraza, Ph.D.  
*Center for Puerto Rican Studies  
Hunter College of CUNY*

Stephanie G. Robinson, Ed.D.  
*Education Trust*

Harilyn Rousso  
*Disabilities Unlimited*

Joan Schine

Warren Simmons, Ph.D.  
*Annenberg Institute for School Reform  
Brown University*

Antonia Stone  
*The Community Technology Centers' Network, EDC*

Darrell Waldron  
*Rhode Island Indian Council, Inc.*

Robin Willner  
*IBM Corporate Community Relations*

