Public Media in the Digital Age

CONNECTING COMMUNITIES

COMMUNICATIONS POLICY PROGRAM

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The Benton Foundation's **Communications Policy Program (CPP)** seeks to promote equity, access and a diversity of voices.It researches and reports on communications technologies and practices, legislative and regulatory debates and industry trends. CPP urges the nonprofit, government and corporate sectors to acknowledge their shared public responsibility and to apply their unique strengths to creating a communications environment that meets educational,civic and social needs.

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By Richard Somerset-Ward,
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Much of the research for this report was done by Rachel Anderson of the Benton Foundation,and Chris Conte assisted in the preliminary drafting of the report.

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PUBLIC MEDIA IN THE DIGITAL AGE

Yes, we're public broadcasters. But in the digital age we're going to be a lot more than that. We've got these powerful new digital frequencies,and we've got all kinds of online technologies and offline ways of distributing knowledge. So we're going to be more than just digital broadcasters – we're going to be broadband digital programmers. Obviously, we can't do it all alone (let alone fund it on our own). What makes much more sense is for us to share these powerful resources with our communities – in a way, become the community's communications partner. That's what we're doing in Philadelphia. We've created Civic Space, and we're inviting all the people and institutions of the Delaware Valley to come to WHYY (both actually and virtually) to join us in using our digital frequency and all our other resources in the interests of the community as a whole.

William J. Marrazzo
President,WHYY, Philadelphia

The Field Museum is a huge international resource – but it's also a part of Chicago. This city is our home, our community – and we must be a partner with the city and its other institutions. Last year, we put together Project Millennium – a yearlong celebration of the past,present and future of Chicago – literally hundreds of exhibits,special events,lectures,screenings, seminars,Web sites,radio and tv programs. We had 180 partners in Project Millennium – from great newspapers to storefront projects,from industrial giants to local libraries – every one of them a stakeholder in Chicago. It was a genuine community alliance, and a lot of it was made possible by the new technologies. I think that is a model for what we should be doing all the time.

John W. McCarter, Jr.
Director, Field Museum of Natural History, Chicago

In public television when we used to talk about "local partnerships," it meant working with local cultural or educational institutions to produce a program using their content. Today these kinds of partnerships are only part of the picture. For example, the head of Education for KCPT not only reports to me, but on some matters he reports directly to the local superintendents of schools. In this kind of partnership, some control is lost by KCPT in the interest of a stronger collaboration with the schools and represents a fundamental change in the way we have traditionally organized these efforts. As we prepare for our digital future, I believe the nature of our partnerships has got to change. It's got to be a real partnership, a mutual collaboration,where control and responsibilities are shared by the participants.

Bill Reed
President,KCPT, Kansas City

CONNECTING COMMUNITIES

Anyone can see that a revolution is under way – a revolution in the way we work,the way we communicate, the way we do business. On the surface, it seems that the principal purpose of this revolution is to generate profits. Its watchwords are *e-business* and *e-commerce* and *e-advertising*. Its daily barometer is the Nasdaq composite index.

But the real revolution – the digital revolution – is changing more than just our business practices. It has raced into our daily lives – our homes, our schools, our communities. Children are being brought up with a mouse in their hands. Computer literacy is fast becoming a requirement for education and advancement. Millions of us correspond by e-mail,and many of our daily chores can be done electronically – paying the bills, balancing accounts, ordering groceries. Large parts of the entertainment industry are migrating to the Internet. Now television is joining the revolution by going digital. Very soon, the computer and the television set will be compatible and interchangeable, both of them interactive.

All the concentration on the marketing and money-making potential of these new technologies has obscured their equally important potential for improving the quality of our lives. How can they best be used to promote education,democracy, public health and hundreds of other interests that are our daily concerns? How can they be harnessed by teachers, librarians, museum directors, doctors, farmers, care-givers, welfare officers, workforce trainers,home learners,public safety officials,minority groups and voluntary associations?

If these new communications technologies are so powerful and so innovative (and there is no argument that they are), then why cannot they be harnessed to our local, communal needs? And why cannot we do this in every community in this country – whether a community is defined as a state, a city, a group of towns or a rural area?

The purpose of this report is to survey some of the experiments being conducted around the country in an attempt to answer these questions. The report begins by looking at the context in which the experiments are taking place – the frenetic development of online technologies, the approach of broadband and the transition of broadcasting from analog to digital standards. It examines the idea of community alliances for the public use of telecommunications,and it reports on a number of case studies and individual projects – in **Kansas City**, **Chicago**, **Oregon**, **Central Indiana**, **Nebraska** and **New Mexico**. Finally, it draws a number of conclusions from these studies, and makes tentative suggestions for the best ways of proceeding in other communities. There are no definite answers,no firm prescriptions,but there are useful indications of what may work,and what may not.

1

THE OPPORTUNITY

1 THE OPPORTUNITY

The most promising experiments involve a wide variety of institutions and interests. What these institutions have in common is that they are stakeholders in the community – they exist *in* the community and *for* the community. They are not just the public media we are familiar with – the public broadcasters,the civic nets and the cable access channels – though they will have an important role to play. They include any institution that provides a service, or uses a service, or employs people within the community. They include all forms of education,the social services,civic organizations,cultural institutions and voluntary activities. They are both public and private, commercial and noncommercial. Together, they form the infrastructure of the community – the things that make it work.

The process many of these interests are beginning to engage in is the process of forming coalitions,or alliances,to make use of the new technologies in the public interest – *on behalf of the community as a whole.* What form these alliances will eventually take is still a matter for speculation (and it will be different from community to community),but it is fair to say that their general objective is the creation of a community portal – a gateway that will connect all branches of the community to each other, through cyberspace, through digital broadcasting and eventually through broadband connections.

The communities involved in these experiments are responding to a unique window of opportunity – a time when computer technologies are developing at extraordinary speed,when digital television is providing broadcasters with huge new capacity, when interactive technologies are accepted (and urgently required) in business,education and many other aspects of daily life, and when broadband is beginning to be recognized as the dominant distribution platform of the future.

At the same time, the availability of these new technologies, and access to them,is steadily percolating through American society. With the help of over $6 billion in technology discounts through the federal E-Rate program,most public schools and public libraries now have computers and Internet access. Digital broadband (the largest and the fastest communications conduit yet invented) is widely available in the workplace and is expected to be in almost 20% of homes by 2002. And there is digital television. No one knows how quickly, or how generally, it will be accepted by viewers (it does, after all, require them to purchase either a new receiver or a set-top converter),but a large number of commercial stations (and some public stations) have already inaugurated digital services, with their ability to multicast six or more simultaneous channels within the same frequency.

Here, then, is the window of opportunity. The time for communities to assemble their coalitions and create their community portals is now, while the revolution represented by the new technologies is still work in progress, and before it solidifies into a way of life. The commercial sector has no doubts about it. So why should the noncommercial sector?

The experiments already under way show that there is more than one way of doing this. Communities have different needs and different strengths, and support comes from a variety of different sources.

- In Connecticut,the principal public broadcaster has taken the lead in building a statewide alliance through the intricate method of "mapping the assets." IBM's Research Division is providing substantial in-kind assistance, and the state government has provided $10 million for digital transition.
- In Grand Rapids,Michigan,a thriving community media center could become the focus,providing a radio station,a community cable access channel,a media advocacy institute, and an organization that helps nonprofits get connected to the Internet.
- In Philadelphia, a public broadcasting station,WHYY, has built a new digital facility and proclaimed it "civic space." The entire community of the Delaware Valley is invited to share in it,both actually and virtually.
- In Texas, the state government has earmarked $10 million in grants for community networking and technology centers.
- In Indianapolis, Indiana University-Purdue University in Indianapolis (IUPUI) is building a communications technology center, and has invited the public broadcaster, WFYI, to relocate to it in order to build a digital community alliance.

These are just examples, but they illustrate one of the important conclusions of this report – that every community needs a focal point, a catalyst. Public broadcasters, with their huge new digital capacity, have a natural and obvious affinity with the idea of creating a community portal, but they are not the only ones capable of taking the lead. It might just as easily be a library, a university, a community network, or one of the new technology centers the Clinton Administration is proposing to fund in a thousand different communities in 2000-01.

2

THE AGENTS

Television is not the lead technology in this telecommunications revolution.It will have a large part to play in the revolution, and it is vital that television should be involved in all the planning and development,but television is,at the moment,playing catch-up. It is only now beginning to go digital. It will be two or three years, maybe longer, before it is fully capable of providing the new services and programming that will be called for, and it may be quite late in the decade before most American homes finally switch over to digital receivers or set-top converters.

The Approach of Broadband

Unlike television, the personal computer is already a digital instrument. As users begin to benefit from broadband connections (as opposed to the slow and somewhat cumbersome telephone connections that most of us still rely on) computer technology is already extending its range and capabilities to include many of the functions we traditionally associate with print, broadcasting, and other "old-fashioned" media. It can stream video to the desktop;its MP3 technologies are beginning to take over the music business by delivering hi-fi stereo sound as good as the CDs we buy in shops;it can reach out across continents to retrieve information (in video, stills, audio, graphics and text) from a million different sources;it daily develops new facets – as stock exchange, shopping mall, games arcade, research library, daily newspaper, travel agent, post office. Very soon the computer will be a language translator, a home cinema and a television receiver as well.

The most important development of the next few years will be the advent of digital broadband connections. Many workplaces already have access to them, and so do a few privileged colleges, schools, libraries and about 1.5 million households. Basically, a broadband connection is a pipeline that has much greater capacity than the phone lines and cable wires that enter most of our homes. It provides high speed access to the Internet, the ability to remain permanently online, video quality as good as anything we will find elsewhere (short of HDTV), much greater interactivity than we have been used to and the capacity to carry all incoming services (phone, cable, utilities) in a single pipe. It is expensive to provide, and it will not be cheap to the customer, but it is likely that competition will quickly bring down the cost. Besides telephone and cable, which have a clear lead, there are two other methods of delivering broadband – one via satellite; one through the use of "wireless cable systems" which use microwave radio frequencies to transmit data in metropolitan districts.

And there is yet another system – still not proven,but one that has intriguing possibilities,especially for broadcasters. Geocast Network Systems in Silicon Valley, iBlast in Los Angeles (which has twelve newspaper groups as investors and partners), and the Broadcasters' Digital Cooperative are all developing methods of providing high quality interactive programming to PCs, *using digital television broadcast signals as their conduit*. At least 27 commercial station ownership groups, together representing hundreds of stations, are already locked into bandwidth and content deals with these companies. If they are able to deliver CD quality audio, full-motion video and software downloads to desktop PCs,using broadcast signals to do so, then digital television could become a major player in the revolution much more quickly, and much more effectively, than looked likely until recently.

Broadband is clearly going to be the principal distribution method of the future, and probably the near future. A number of technical and policy questions remain to be ironed out (such as agreement on a single standard for streaming), but it is safe to say that broadband proclaims the real beginning of the digital age – the moment when the computer and the television receiver become compatible and interchangeable.

Commercial Broadcasting

This does not mean that television has lost its place in the media universe. It has the unenviable task of maintaining its analog transmissions at the same time that it is investing heavily in digital hardware and digital programming (programming that very few people are going to see in the immediate future). For years,commercial broadcasters have fought for the right to be regulated entirely by the marketplace. Now that they more or less have this right,they are finding that the marketplace is a very unreliable indicator. It cannot tell them when the majority of Americans will throw out their analog sets and start viewing in digital. It cannot tell them whether digital viewers will want high definition television, or whether they will prefer the somewhat lower definition of standard digital transmission in return for the greater range of choice they will get through multicasting. Nor can it tell them how much of their territory will be preempted by computer technologies in the meantime.

In these circumstances,commercial broadcasters are not waiting around for answers. They are moving into non-broadcast technologies. The mergers and alliances reported almost daily are proof of what is going on – though that is only the tip of the iceberg: the most significant moves are being made by local stations establishing themselves on web sites and preparing for the broadband revolution.

Public Broadcasting

Commercial broadcasters play a large part in community life, but their priority is to make profits for their owners – whereas public broadcasters, who are also licensed on the basis of localism, have a mission to make community interests their most important focus. That, at any rate, is the theory. In practice, things are very different. Public broadcasting may not have to make profits,but it does have to find funding for every one of its activities. Unlike its European equivalents, it has no firm, or even semi-firm, financial foundation. The history of public broadcasting in this country clearly demonstrates that maintaining a single channel is a bit of a stretch,but it can be done so long as stations are not expected to create much (in many cases,

any) original programming for themselves. Most of it is therefore provided by satellite feed from PBS in Virginia, or by acquisition from national and international syndicators. The number of public television stations producing their own local programming is low – a 1998 survey by Current,a biweekly newspaper on public broadcasting, showed that less than 20 out of 179 licensees had a local nightly news show.

Yet public broadcasting is a large resource, and fundamentally a local (or state) resource. Now, with its new digital frequencies,it is potentially an enormous resource – not just because digital frequencies have much greater capacity, but because digital code is now the common language of all the electronic media. Public broadcasters,like their commercial brethren,can begin to operate on non-broadcast platforms, and make their programming compatible and interactive with online technologies. But they still have to find a way of funding these developments,and it is clear they cannot do it on their own.

So, suppose public broadcasters are prepared to share their new resources with their communities – to say "Here we have all this digital firepower. We cannot make proper use of it on our own, but we have a duty to use it in the public interest, and that interest is the community interest to which we are licensed. We must remain legally responsible for the way in which it's used (that's part of the license requirement), but, that said, we propose to join an alliance with all the other significant institutions and interests that make up our community to ensure that our frequencies and our expertise are used to maximum advantage. In return, the community must join with us to help fund these developments, and, in doing so, create a resource that will serve all parts of the community, all levels and activities of our society."

That is a revolutionary change of direction for public broadcasting, but it makes sense for the stations (how else are they going to fund or make use of their capacity?). It also makes sense for the community. Digital television is a powerful adjunct to online technologies; it will be in every home, every workplace, every classroom; it will enable community institutions that have not previously had regular access to television (such as libraries, museums, colleges, health providers and civic organizations) to reach much deeper inside the community.

It is clear from the examples cited in this report that some public broadcasters are beginning to work closely with their communities in this way. They are providing the first models of what is possible, and how best it can be achieved.

Community Networks and Public Access Cable

The PEG channels on local cable systems (reserved for public, educational and government use) and community Internet networks (also known as "civic networks" or "free nets") are two other important local public media outlets. While they have been seriously underfunded and often not utilized to their full potential,some of them have become important forums for communities.

The La Plaza Telecommunity in Taos,New Mexico is an outstanding example. Launched in 1994,it offers local residents high-speed access to the Internet through a T-1 line, as well as wireless connections to local institutions. Thus, it connects Taos to the world at large. But it is also "local-centric" – it has become a virtual library for the whole of northern New Mexico; it has developed impressive content on health and medicine, local culture and many other subjects;and it has enabled local users to create and maintain their own home pages and their own projects.

When the state of Texas authorized $10 million in 1999 for grants to community networking and technology centers, the Telecommunications Infrastructure Fund board put out a request for proposals. "Thousands of public schools, libraries, community colleges, universities and not-for-profit health care clinics have received funds to build advanced local networks," it said. "Now it's time to utilize these networks to involve and benefit the wider community."

The Community Media Center in Grand Rapids,Michigan has been built with exactly that idea in mind. It is an alliance of noncommercial media organizations – a radio station,a public access cable channel,a media advocacy institute and an organization that helps non-profits get connected to the Internet. Together, they offer multi-media transmission possibilities,including cable TV, radio and the Internet – all for the purpose of "building community through media." Among the Center's projects is one called the *TeleDemocracy Project*, which brings together not just the Center's affiliates but a number of public partners,including the office of the City Clerk,to raise awareness of (and participation in) the electoral process.

Grand Rapids, Taos and the Texas initiative are not unusual. The case studies in this report include other good examples of community networks and public access cable channels at work. It is clear that they can play an important role in the development of community alliances. In some places, they may even become the focal points.

3

THE ALLIANCE CONCEPT

3 THE ALLIANCE CONCEPT

Every member of a community (and that is all of us) relies, to some extent, on the contacts and services the community supplies. We need educational services and social services; we want to be able to make use of our cultural institutions and voluntary associations; we have a right to participate in local democracy; we have a stake in the economic development of our towns, suburbs and rural areas; we are concerned about our environment. All these things are aspects of the quality of our daily lives.

The new technologies (digital broadcasting, online communications, and all kinds of interactive and related software developments) enable us to create community media platforms that will provide us with access to these services. They will also enable us to participate in them—whether as content providers, or as users, or as observers.

The way to create these platforms (or portals) is to form alliances which contain all the principal interests and institutions that make up the community. They will range from state and local governments to small groups of caregivers and ethnic associations. Most importantly, they will include the whole network of learners and teachers that make up the educational fabric of the community, as well as the health and social services on which we depend, and the many organizations involved in civic democracy. They will also include the business community and the principal employers.

The alliances are dedicated to the public interest. Their purpose is to serve all the members of a community, whether it be as large as a state or as small as an individual town.

It is this idea of digital community alliances (or community telecommunications alliances) that is now being developed in different locations throughout the country. It is early in the process. At the moment, only a few communities have advanced much beyond the stage of preliminary discussions – but a great many communities are discussing it.

It is clear from the experiments reviewed in this report that the communities in the vanguard of alliance development are ones that found, within their community, an institution that was prepared to become the catalyst around which other interests could coalesce. Such a catalyst has to be widely acceptable within the community, has to be prepared to subsume its own agenda within the interests of the community as a whole, and has to have (or have access to) some of the basic technological resources that will be required.

Public broadcasters have a particular interest in the growth of these alliances because they provide the only obvious means whereby they can make use of (and fund) the prodigious new capacity they have been presented with by the digital revolution and the development of so many new technologies. If public broadcasting stations are prepared to *share* this arsenal with their communities, then they could become very effective catalysts, or "hubs," of community alliances.

But they are not the only candidates. It is perfectly clear that universities, major libraries and museums, or existing community networks could fulfill the same function.

The first experiment, and so far the most advanced, is taking place in **Connecticut**. Two years ago, a group of public broadcasting stations (all of them licensed to Connecticut Public Broadcasting, Inc.) embarked on a process called *Mapping the Assets*. Backed by a $23 million budget (of which $10 million has been contributed by the state government), and assisted by in-kind contributions from IBM,the public broadcasters have set out to meet and enlist the help of every institution in the state that may have something to offer the alliance – from great institutions like Yale University to less well endowed organizations like Connecticut Voices for Children. The public broadcasters are undoubtedly the instigators and "hub" of this process, but they have wisely put together a strategic development committee, broadly representative of the community and containing a number of genuine "movers and shakers," to provide oversight,advice, and (where necessary) muscle. As a result,Connecticut is now two years into a carefully planned schedule that will build the alliance piece by piece – piloting new services, creating the community portal through which they will be accessed – until, by 2003 (according to the plan) it will be a fully-formed alliance on which the people and institutions of Connecticut can depend.

In certain ways, Connecticut offers a model that can be used by other communities. True, it is a particularly affluent state, well endowed with big business and personal wealth. But that,on its own,does not explain why it is a pioneer in this process. It could just as easily have been a relatively poor and rural state. What made the difference in Connecticut was that it had an

institution (in this case, the principal public broadcaster) that was well anchored in the community, forward-looking and ambitious, and was prepared to offer itself as the "hub" around which other interests could coalesce. Most important, perhaps, it was willing to make a huge contribution to the alliance at the outset: it offered to *share* its new digital capacity with the community.

Philadelphia is also making progress down the same road, but by somewhat different means. WHYY, the principal public broadcaster in the Delaware Valley region, has built a fine new facility and has designated it "civic space." Civic space is both an actual and a virtual concept – "a space in which people can articulate the life of the community by 'being there,' by participating as well as observing, by producing as well as consuming." It represents the promise that WHYY's resources and facilities are to be shared with the community, and (like Connecticut) WHYY plans to establish a committee of community leaders to oversee the development of civic space in all its varied aspects. Rather than the exhaustive process of "mapping its assets," however, WHYY has established a number of content strands (with digital and multi-platform briefs), and is using them to develop (and demonstrate) the concept of civic space.

Other examples are examined in the Case Studies that follow. One tentative conclusion to be drawn from them is that the most powerful catalyst of all may be the combination of a public broadcaster and a great university. In both **Indianapolis** and **Nebraska**, that is the way the process is being developed – high-tech intellectual resources partnering with the digital firepower and community reach of experienced public broadcasters. Together, they make a powerful launchpad.

4

CASE STUDIES

4 CASE STUDIES

Every community is distinct. No one should expect to take the Connecticut model or the Philadelphia model and simply copy it. At the very least,a great deal of adaptation and customizing will be needed. But they are helpful examples that are being carefully monitored by other communities around the country.

The following survey takes six very different communities. Some are quite well-advanced in the alliance process;some have developed individual projects of national significance; and one (New Mexico) is confronted by appalling difficulties. There are lessons to be learned from each of them. They are offered as examples of a process that every community (or group of communities) should be considering.

Kansas City: Alliance for Education

- **MoKan Kids Network**
- **AITOL**
- **KCPT and Children's Mercy Hospital**
- **KCUR and Partnership for Children**

Aside from personal communications, no part of a community's life is being more radically changed by the new technologies than education. The E-Rate (the federal government's program of education discounts on telecommunications services) is bringing Internet access to every classroom and library in the land. Teachers can make use of online tools that both inform them and provide them with new methods for teaching in the classroom. Home schooling and distance learning are possibilities that become much more attractive as the technologies improve. No community has done more to confront these challenges than the huge area of Missouri and Kansas covered by KCPT in Kansas City and Smoky Hills Public Television in Bunker Hill.

The MoKan Kids Network, originated by KCPT, is an independent nonprofit organization that serves 342 school districts (about 350,000 students) stretching from the Mississippi River to Colorado. Its board includes school board supervisors and teachers as well as public broadcasters. It provides instructional television, of course, but also online services and professional training for teachers. Since 1996, *Link 19*, which is a part of *MoKan*, has provided teachers with access to educational databases,newsgroups, forums, e-mail and a connection to the Internet. Kids *TV 19* includes the *Ready to Learn* arm of the network;it partners with 97 educational and social service agencies and businesses to provide programming and outreach so that all students will arrive at school ready and able to learn. Compressed video conferencing facilities enable teachers to participate in update and training classes in their own towns, without the need to travel long distances to Kansas City where the classes are actually held. These and many other services (*Ready to Teach,PBS Mathline, PBS Teacher Connex,etc.*) are all part of *MoKan*, but its centerpiece is its use of Instructional Television (ITV) – in this case, a library of 170 series comprising 1900 individual programs covering subject areas right across the curriculum.

"[MoKan] is basically run by schools themselves," says Gary Brock, Media Coordinator at Fort Osage School District in Missouri. "It has given us a place to go for information. The rest is up to us."

Do teachers really want ITV programming any more? The answer, generally, is that they no longer want it in its traditional form – video programs, recorded off air, mostly between ten and thirty minutes in length. Nevertheless, all that programming, with new titles being added each year, represents a resource that might be extremely valuable to teachers in a different form – if (for instance) it was to be digitized,put on-line, segmented, indexed and streamed "on demand" to the desktop. This is what *MoKan* is doing. First,it created an online Digital Instructional TV Handbook containing descriptive information about each program, a teacher guide that can be downloaded,lesson plans developed by classroom teachers using the video, a two-minute preview clip for each program, verified Web links to high quality sites that correlate with the video and professional development modules for teachers that highlight effective use strategies. Suddenly, Instructional Television became much more accessible.

"The MoKan network's programs give more meaning and depth to the topics we're teaching," says Kari Goheen, a third-grade teacher at Prairie Star Elementary School in Kansas. In the past Goheen has used ITV programs to help her students learn about the solar system – but now she can use ITV as a tool that engages students in active learning,not just as passive viewers.

The next step is to add the ability to stream this programming (or segments of it) to teachers' desktops on demand. This is the purpose of ***AITOL (America's Instructional Television On Line)***, a KCPT project funded by the Corporation for Public Broadcasting's Future Fund. Using a video server and high-speed T-1 connections provided mainly (and cheaply) by Sprint, twelve pilot schools are experimenting with this system. If it is successful – and it seems clear from *MoKan* and other test sites that it will be – *AITOL* will restore Instructional Television to the forefront of K-12 education. It will make a large and valuable catalog available to teachers "on demand" and in a form that is easy to use in the classroom. It will support teachers with professional development as they use the new delivery systems. It will give teachers a formative role in the design and development of these tools. And it will be made available, via the Internet, to public television stations throughout the country, allowing them to continue to provide front end services to their local schools while utilizing the infrastructure built by KCPT and *AITOL*.

4

AITOL is,in some ways,a rescue operation – an ingenious way of using new technologies to resurrect instructional television from what had been thought to be an early grave. But it is also a signpost to the future – to the uncharted realm of broadband digital programming in which television and Web programming actually converge. An unpublished KCPT concept paper sees this as the next great challenge for public broadcasting and its partners in the community and beyond:

> The looming BDP revolution must be viewed in the context of two enormous societal changes: the instant worldwide dissemination of programming made possible by the Internet, and the publication of groundbreaking research into brain development and learning over the past three years. It is now possible to design programming that maximizes comprehension and retention at any level; can be customized to each viewer through multi-media technology; and can be made available any time, anywhere to persons with Internet access.

This is not "enhanced television." It is an altogether new form of programming aimed at a new type of consumer (someone who is,somewhat unfortunately, called a "viewser"). It might best be characterized as *TeleWeb* programming. It uses broadband technologies to deliver audio, video and data programming over the Internet; it provides for interactivity and on-demand access;it is capable of incorporating live chat and vector-based animation. It combines the production techniques of television with the distribution and participation opportunities of the Internet. It is designed for a new breed of media users (viewsers) "who are motivated to interact electronically with the mediated information they choose to access,while remaining consumers of traditional television resources."

Broadband digital programming will almost certainly become the focus of the electronic media in the next year or two. It is true that very few households at present access the Internet via broadband connections. Nevertheless, it is increasingly becoming the norm of the commercial workplace, and educational and civic institutions are moving in that direction. It makes sense that public media (not just public broadcasting) should accept, now, that it is the future, and should plan accordingly. *KCPT* already has exciting ideas to partner with local newspapers and community institutions in pilot programming for the workplace – and that is just the beginning.

In addition to KCPT's collaboration with educational institutions across the state, the station has worked with ***Children's Mercy Hospital*** to address local health concerns.The hospital's emergency department identified injury and morbidity statistics for children visiting the ER.Using this information,the station produced a campaign of public service ads focusing on smoking,poison control and pedestrian safety.

The spots,produced with both children and parents in mind,contained useful contacts and other information. Pedestrian safety was a particular concern in Kansas City because the city's schools had recently switched their focus from magnet schools to which children were bussed, to neighborhood schools closer to children's homes. This put many more children on the street, according to Dee Rusconi, the station's early childhood education coordinator. Rusconi characterizes the spots and their tailored focus on issues specific to Kansas City as "using information from the community, to give back to the community."

Kansas City public radio station KCUR has also demonstrated the potential of alliances with public broadcasters and the nonprofit sector. Working with the ***Partnership for Children***, a 10-year-old collaboration of dozens of local agencies and organizations committed to improving the welfare of children and youth, KCUR developed feature stories, call-in programs and a Web site devoted to topics like brain development,prenatal care and access to health insurance. The goal was to help develop greater awareness of the status of children in the metropolitan area – and to help the community find ways to improve it.

"Often the public has no idea about efforts to improve the lives of children in our community," says Donna Peck,communications director for *Partnership for Children*. By combining the resources and expertise of the *Partnership* with the reach and journalism skills of KCUR, the alliance was able to increase public awareness and engage listeners in community problem-solving. The effort,which could serve as a model for other communities,was part of the Benton Foundation project *Sound Partners for Community Health*. Funded by the Robert Wood Johnson Foundation,the project provides support to public radio stations to produce community-centered programming and collaborate with partners to address such issues as health care for young children, youth substance abuse, health-care decisions at the end of life, the health-care safety net and the needs of the aging and chronically ill. Now in its second round of grantmaking, Sound Partners has seeded programming alliances in 55 different communities and is a test bed for new services and relationships in public media.

Chicago: Engaging the Community

- **CAN TV**
- **Street Level Youth Media**
- **Network Chicago**
- **Project Millennium**

Big cities, rich in resources and cultural diversity, promise exciting opportunities for reinventing public media, but they also present the biggest challenges. Turf wars are more pronounced. Not-for-profit institutions are

in direct competition for the same pots of money; partnership with other institutions often takes second place to extending the brand of your own institution; public broadcasters operate on a larger scale, and are often more involved in national, and even international, production than they are in local programming.

Chicago (Carl Sandburg's "city of the big shoulders") is exceptional, as it is in most things. Its two public television stations have long-standing commitments to (respectively) formal education and local programming. Its cultural institutions – the Chicago Public Library, the Art Institute, the Field Museum, the Chicago Symphony Orchestra, the Ravinia Festival, the Steppenwolf Theater Company, the Joffrey Ballet and the Lyric Opera – are among the most innovative in the country. Its educational institutions include some of the greatest intellectual property resources in the world (Northwestern University and the University of Chicago are obvious examples).

It also demonstrates,of course, most of the downside of urban America – an underserved poor, unequal educational opportunities, social services stretched to their limit. The list could be greatly extended,and it is,nightly, on the local news programs – a vivid reminder that public media need to extend their reach beyond the well-heeled and the technological "haves." Chicago, as it happens,is a prime illustration of how well this may be done.

Chicago Access NetworkTelevision (CAN TV) produces local programming for Chicago's five public access cable channels. Equally important,it provides the community with the tools to produce programming for itself. Created as part of the cable franchise agreements between the city and local cable operators in 1984,it provides affordable, effective and easy-to-use means of outreach for nonprofit organizations. In the process, it preserves locally-focused public space in the increasingly crowded media landscape. Barbara Popovic, Chicago Access Corporation's president,says the network seeks "to counter the notion that media are just about commercialism and entertainment." More than 2,500 organizations have used CAN TV's nonprofit services to date.

The *Hotline 21* studio is one of CAN TV's services. It gives nonprofit organizations a simple format for producing their own programs, combining the interactive features of a call-in hotline with the reach of live television. Groups taking advantage of the *Hotline* studio have addressed issues ranging from small business development to domestic abuse and AIDS prevention. "It is our role to make it as easy as possible for groups to connect with the public," says Popovic.

Teen Express was one of CAN TV's Community Partners projects. It was designed to give area teens a chance to show off their neighborhoods by using new technologies. Born out of a partnership between CAN TV and an artists' collective based in Chicago's near-Southwest Side Pilsen neighborhood, the program attempted to integrate the arts into Pilsen's community life. Kids participating in *Teen Express* depicted their communities through a print magazine, as well as a video program cablecast on CAN TV. Using CAN TV's lightweight Hi-8 cameras and audio equipment, the teens documented different types of artistic expression in the community.

Street Level Youth Media is one of CAN TV's satisfied partners. A nonprofit organization, it seeks to put the latest communications technology into the hands of urban youth. Using equipment provided by CAN TV, the group produces a quarterly 30-minute interactive television program called *LifeWire*, which airs on a local public access channel. Public access "allows us to make what we want," says Tony Strait, Administrative Director of *Street Level Youth Media*. He admits that, because there are no restrictions on content, not all public access programs are great. But because of *CAN TV* "a lot of groups that wouldn't otherwise get a chance, have been able to produce and distribute their material." In addition to video production training, *Street Level* also provides neighborhood youth with Internet access and training. Each year, more than a thousand kids are involved in *Street Level's* programs, which include partnerships with organizations ranging from the Chicago Park District to the Museum of Contemporary Art and the Chicago Historical Society.

Chicago's public broadcasting stations are strong, well established, and very focused. WYCC (TV Channel 20) is licensed to the city's community colleges. As long ago as the 1950s,it was the first college system in the U.S. to offer credit courses through television. Today, with a weekly audience of 1.5 million, they have more than 10,000 students registered to take their courses, with WYCC programming as the main resource. Window to the World Communications, on the other hand, is a community station comprising WTTW Television (Channel 11) and WFMT Radio, and has long been a major player, both in Chicago and nationally. What distinguishes it in public broadcasting is its local programming.

Network Chicago is WTTW's statement of intent for the digital age – an enormously ambitious project focused on programming from and about Chicago. Initially, it aims to provide WTTW with three hours of local programming each night,but its longer-term objective is to build a network of local partnerships and collaborations that will enable it to program multiple channels for digital broadcasting by 2003,or whenever the digital frequencies "kick in" with a worthwhile population of viewers.

Such a network has to be multi-platform,but WTTW's perception is that no amount of different platforms will be much use unless they are underpinned by solid video programming. As broadband digital programming advances, *Network Chicago* will doubtless become increasingly multimedia-oriented,but it makes sense that the first emphasis should be on providing additional video programming for WTTW's analog channel, and that as much as possible of that programming should explore the potential of new partnerships within the Chicago community.

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WTTW is building on a corpus of existing programs. Most important is a nightly program, *Chicago Tonight*, that goes out at 7 p.m. and again at 10 p.m. The 30-minute program will shortly be extended to one hour. There are also a number of weekly or occasional series – *Wild Chicago, Artbeat Chicago, Chicago Matters*, and *WTTW Presents*. Some of the new partnerships are being generated by these programs. WTTW Presents, for example, offers genuine collaboration to local performing arts companies. The Hubbard Street Dance Company paid its own talent costs for a one-hour show;WTTW paid all the television production costs. WTTW got a fine show and almost 500,000 viewers from two transmissions. Hubbard Street sold out its annual subscriptions. WFMT's expertise in classical music and the fine arts is also useful: it has long-term relationships with institutions as important as the Chicago Symphony Orchestra and the Lyric Opera.

In addition to its television programming, *Network Chicago* will have other elements – two- or three-minute radio inserts on WFMT; Internet sites linked to its main areas of coverage; specially staged events related to its programming (generally staged in conjunction with content partners); an advertiser-supported free weekly newspaper; and periodic supplements (maybe, eventually, a daily page) in one of Chicago's principal newspapers,the *Chicago Sun-Times*.

The crux of *Network Chicago* is much like Connecticut's *Mapping the Assets* program – an extended series of one-on-one meetings with potential alliance partners from all parts of Chicago life, public and private, commercial and non-commercial. Cultural institutions (like the *WTTW Presents* collaborators) have an obvious motivation. Academic institutions are likely to be interested since their areas of expertise are complementary and they generally compete for resources in different arenas (Northwestern's Medill School of Journalism, for instance, might provide valuable resources and input to public affairs programming,while gaining useful experience for its students and teachers). But the real success of these meetings will be gauged by the ability of *Network Chicago* to bring on board partners from the business, commercial, and government sectors of the community, where funded (as opposed to unfunded) partnership is most often to be found. What can they contribute to *Network Chicago*? And what can *Network Chicago* contribute to them? There have to be mutual advantages, and the budding relationship with the *Chicago Sun-Times* seems to indicate that there will be.

Network Chicago is clearly being developed on a very businesslike basis – much more businesslike than anything normally associated with public broadcasting. It may well turn out that that is the "big city way." Certainly, it is a model that other large urban communities need to be aware of. It is notable for its complete dedication to local issues, for its recognition that it has to exist in a commercial milieu,and for its determination to embrace as many as possible of the diverse interests and communities that make up Chicago. What is unclear, at this early stage, is whether it will be able to include the extensive nonprofit interests represented by organizations like *CAN TV* – or whether they will have to continue to go their own independent way.

There are, of course, many other organizations in Chicago capable of being a hub, or catalyst, for community partnerships. The Field Museum of Natural History has one of the most ambitious partnering schemes of any institution in America. It is also more finely tuned to the uses of the new technologies than most. In 1998-99 it put together an alliance of 180 cultural institutions in its ***Project Millennium***. Together, they presented exhibits, festivals, film series, broadcast programs, lectures, and children's events in a year-long exploration of Chicago's past,present and future. *Street Level Youth Media*, the storefront project that offers training and access to video production facilities and the Internet,was one contributor. So were the public broadcasters. And so were most of Chicago's major institutions,and an impressive number of its commercial businesses as well – all encamped beneath the same umbrella, because they perceived it as contributing to the community in which they have their existence.

John McCarter, Director of the Field Museum,saw* Project Millennium *as a way to surmount parochial interests, and to engage diverse institutions in celebrating Chicago and its multi-faceted cultural resources. "One of the earliest goals of the project was to foster a better way for community cultural organizations to work together," says Marion King,Communications Director for* Project Millennium. *Many organizations were eager to be part of the project, she explains, because of the "marketing muscle" the collaboration provided. Many smaller organizations, in particular, got publicity they never could have afforded on their own.

Oregon: Harnessing Technology

- **Rock the World**
- **InTIME**
- **CascadeLink**

With Silicon Valley to the south, and Seattle and Redmond not far to the north, Oregon has both a geographical and a commercial association with new technology development. Since 1993, Oregon Public Broadcasting (OPB) has been a private nonprofit corporation rather than a state licensee, and it has used its entrepreneurial skills to establish working partnerships with technology companies – in particular, with Intel, Sharp Labs and Tektronix, all of whom are represented on OPB's Technology Committee, as is Enron, the state's principal energy supplier. In contrast to the content-driven programs of Connecticut and Philadelphia, OPB has used its Technology Committee as its think tank and powerhouse to plan

for the digital age. It decided that the station's (and, by extension, the community's) first need was to understand the potential, as well as the risks, of the new technologies. Having spent three years doing that (the Technology Committee came into existence in May 1997), it is now in a position to move confidently into the world of content-driven planning in which technology is harnessed to the needs of programming (rather than vice versa).

Aside from its partnerships with technology companies, OPB has used this preparatory phase to cultivate two other forms of partnership. One is with other non-broadcast "players" in the digital game – the Oregon Public Education Network (OPEN), for instance, is a member of the Technology Committee, and many of the local projects to which OPB is committed are in partnership with agencies of the state government or local institutions.

The other – so obvious,but so easy to neglect – is a partnership with its own staff at OPB. They are encouraged to become "digital champions," and radio and television personnel work so closely together that is hard to tell the difference (all news gathering,whether for radio or television,is done by the radio staff). OPB therefore finds itself in the enviable position of being able to develop services and programming on the sure foundation of an enthusiastic and technology-literate staff, and in alliance with community institutions that are anxious to add public broadcasting's programming and digital reach to their own projects.

OPB regards itself as a national and international broadcaster, as well as a statewide one, so several of its most impressive initiatives (like *Rock The World*) are intended for audiences far beyond the borders of Oregon. Others (like the *InTIME* project – Integrating Technology into Migrant Education) are specifically for Oregon. In almost every case, they are multi-platform projects, often originating in online formats rather than in broadcasting.

Rock The World (a development project at OPB) is designed as a transmedia tool for 8- to 14-year-olds. It begins with a Web site and develops into all kinds of ancillary products in different media – print, video, television,radio, data,and unique consumer electronic devices yet to be developed (one of these, a prototype hand-held video device, is being developed for the project by Sharp Labs). Various kinds of portals, or entry points, will be created so that users can access it, and contribute to it, in different ways (and a home computer is by no means necessary). The proposal outlines the project's rationale:

> Young people are among America's most affluent and "targeted" consumers; our culture makes and sells kids things that we think they'll like. *Rock The World* provides the opportunity for kids to do something besides consume popular culture: the opportunity to speak in their own voices, through powerful new technologies and media ...[It] is not educational in the traditional sense. There is no curriculum and no fixed body of information that must be transmitted by adults to young people. Instead, *Rock The World* will be structured around ideas and activities that kids are passionate about ...The objective is to simultaneously nourish self-esteem,self worth and technical literacy among pre-teens and teens, through the creation of a community based on active interests, mentoring and networking ... ***Rock The World*** will build a community that is connected from neighborhoods to the national level. It will be fun, enticing,and interactive.

Integrating Technology into Migrant Education (InTIME) is a program of Oregon's Department of Education in which it has eight partners, including OPB, the Center for Electronic Studying at the University of Oregon and a number of school districts with a high incidence of migrant workers. About 4% of Oregon's public school students are children of migrant workers, the vast majority of them Hispanic. Most of these workers stay in Oregon year-round, but they move about the state in order to meet seasonal demands for labor in an economy that is largely based on agriculture and forestry. Their children are hard to track, and harder still to integrate into the public education system.

InTIME was devised in 1997 to develop increased uses of technology to strengthen the academic achievement of these children – with homework hotlines, summer schools, bilingual instructional programming, Ready to Learn training and the development of various types of software and the Internet. With the aid of an award from the federal Department of Education, more and more of these children are being successfully tracked through the system, and their parents are being encouraged to join Ready to Learn workshops in school districts throughout the state. The workshops provide parents with tools for locating educational programming – in English and in Spanish – and give tips for turning viewing experiences into learning opportunities. An evaluation by the Institute for Communication Research showed that families who participate in the workshops are more likely to watch television with their children, to know what their children are watching, to talk about programming with their children and to impose rules governing how much television and what kind of programs their children can watch. *InTIME* is a cooperative enterprise, and,like so much else in Oregon, it is based on the idea that new technologies can be harnessed to the needs of the community as a whole.

Gail Speich-Merrion, a language specialist for the Hillsboro School District near Portland, credits the *InTIME* program with building a bridge between school and home for many migrant families. Parents who have participated in *Ready to Learn* workshops have begun to see schools as resources not just for their children, but for adults as well, she says. Some parents, for instance, have approached the district seeking computer training for adults. Schools, in turn, have become more sensitive to the needs of migrant families. Teachers who participated in the workshops in Salem-Keizer School District have begun discussing the possibility of providing Spanish-language bilingual instructional materials.

CascadeLink is a community network providing online access and local information in the Portland area. It was born out of collaboration among

several organizations and agencies – including universities, city government and the public schools – that wanted to provide information to the public and encourage civic involvement. The network is run primarily by the Community Information Program at Multnomah County Library, but numerous partners are responsible for different content areas. Staff at the Oregon Health Sciences University library, for example, maintain the health portion of the site, while the Columbia River Inter-Tribal Fish Commission Library provides environmental content.

In contrast to the success of *CascadeLink*, many community networks are struggling for survival. The number of nonprofit networks throughout the country has held steady at somewhere between 250 and 300 since the mid-1990s, even though the number of Internet users has soared. Community networks have had to overcome many hurdles – including creating sustainable business models, insufficient community outreach and growing competition from commercial networks,such as *CitySearch* and *Microsoft Sidewalk*. "In the early '90s," says Steve Snow, Executive Director of the Association for Community Networking,"community networks were mainly supported by grants,and many people just didn't think about the business of it." Now, times have changed. Communities are building economic development into their plans for public networks. Partnerships with local governments and community organizations are often an integral part of these plans.

"We need to reconnect public broadcasting to community activities and community missions serving the public, and community networks should be thinking about how to reconnect with television," said Gary Chapman, Director of the 21st Century Center at the University of Texas in Austin,at a 1999 conference sponsored by the National Telecommunications and Information Administration."

Nebraska: The Reality of Multi-Platform Programming

- **CLASS**
- **Wonderwise Science Education**
- **Grassroots**
- **NCITE**
- **NAPT**

No state in the Union has a greater investment in public media than Nebraska, and no state has done more to ensure that its facilities – and its thinking – are state-of-the-art. Nebraska Educational Telecommunications (NET) is the engine-room of this enterprise, largely financed by the state government and its educational institutions, but with many of its individual projects funded by federal grants. Molded by its geographical location on the plains,it has been a pioneer first of correspondence learning,then of distance communication and learning,and now of interactive media development for all kinds of education and information.

The amount of activity is awesome. NET is the umbrella organization that includes the eight state-licensed stations of the Nebraska ETV Network, as well as KUON/Channel 12 in Lincoln, which is licensed to the University of Nebraska, and the nine state-funded radio stations that make up the Nebraska Public Radio Network. In addition to over-the-air broadcasting, it has:

- NEB*SAT, a 28-channel satellite system that provides communications for educational and state government services,as well as public broadcasting;
- a compressed video service allowing 20 simultaneous one-way or 10 two-way interconnections;
- a fiber-optic service linking groups of elementary, secondary and post-secondary schools to share two-way instruction;and
- a statewide cable network (EduCable).

It also owns and operates what may be the most technically innovative educational production and distribution company in the country – Great Plains National, co-producer of *Reading Rainbow*, *Newton's Apple* and many other series.

But the fastest developing side of NET is the Interactive Media Group, where as many as seventy programmers work shifts in order to meet deadlines on projects like *CLASS*.

CLASS stands for ***Communications, Learning and Assessment in a Student-centered System***, and for once the acronym is an accurate description. Its purpose is to make available on the World Wide Web a complete accredited Nebraska high school diploma sequence. It is aimed at the geographically isolated,the housebound and the homeschooled – but it is also there for students who wish to accelerate their high school graduation or need courses to supplement the high school experience. All the tools and materials a student needs are contained within the course – text,audio, video, Web links, online quizzes and tests, and many other features, including an electronic notebook to capture graphics and text, an e-mail link to the teacher and a newsgroup where the teacher may post general announcements or moderate student discussions – all this within a seamless navigational system that encourages individualized discovery and learning.

CLASS is work-in-progress,but much of it is already functioning. The first four Web-based courses were in operation as early as 1997. Since then, ten courses have been added each year, and all 54 will be online by September 2001, working in conjunction with 138 print-based courses offered through the Independent Study High School of the University of Nebraska-Lincoln (UNL). The $17.5 million project (commissioned by the University's Division of Continuing Studies) is funded by a five-year federal grant from the General

Services Administration, together with a Department of Education Star Schools award. It is no surprise that other states are already visiting Nebraska to see how the technology can be adapted for their own uses.

CLASS is the most spectacular of NET's interactive developments,but by no means the only one. ***Wonderwise Science Education*** was developed with the Nebraska State Museum. It creates interactive kits (CD-ROMs and videotapes) that feature the role of women researchers in the history of science – in an effort to encourage more young women to pursue a career in science. In a very different kind of project,the Nebraska Law Enforcement Training Center commissioned NET to develop online courses for law enforcement training throughout the state. Its components cover subjects as varied as drug and narcotic enforcement and the handling of domestic disputes – all of them designed to enable officials and volunteers to train,and to be kept up to date, without the need to travel to distant centers.

Grassroots is another interactive media project in development. NET was aware that five separate rural and agricultural groups had approached it to seek help in improving efficiencies in rural life on the plains. It got them all together and developed a project that will confront their problems and help to devise solutions, using radio, television, and the World Wide Web. It's a timely project, and it clearly meets a community need. Amidst economic uncertainty and the continued decline in the numbers of people employed in the agricultural sector, more Nebraska counties are losing population than are growing. Outmigration, combined with an aging population base, could lead to a severe population decline in the years ahead,crippling rural Nebraska's ability to maintain services and create a future for itself. *Grassroots* will disseminate stories of farmers on the plains, in the process engaging Nebraskans in a statewide discussion about the challenges rural areas face.

The goal of Grassroots, says Donald Mackie, executive director of the Nebraska Rural Development Commission, is to "get the plight of the Nebraska farmer on most people's radar screen."

Nebraska Educational Telecommunications is an object lesson in how public media – and public broadcasting, in particular – can harness the new technologies to the needs and aspirations of their communities. It earns substantial and continuing support from the community (as it has done for 45 years), and it is now beginning the task of forming its own community alliance – probably for the Great Plains region as a whole, rather than just for Nebraska.

Reliable community support is a hard-won commodity, but Nebraska's success is also based on its spirit of entrepreneurship and an eagerness to experiment with each new technology as it appears. It is this spirit that informs the most ambitious of all NET's development projects – ***NCITE: National Center for Information Technology in Education***. The purpose of *NCITE* is to create a national laboratory to conduct basic and applied research into how we learn, and how technology can be used to enhance our learning. Its research in learning and cognition could help a third-grader in Chadron improve her reading skills. It could develop software to enable a school district in Iowa to revamp its fourth-grade mathematics program. It could create collaborative virtual reality technology to enable history students to study Native Americans. Its research and development could significantly lower the per-unit cost of education in K-12 science and mathematics. With its labs, its experimental classrooms, and its gathering of experts and expertise, it could make real contributions to the improvement of education in this country. *NCITE* is still a vision – a bold vision – but it illustrates the potential that public broadcasters (and public service media, in general) can legitimately envision when they match their access to new technologies with serious educational purpose and genuine entrepreneurial skills.

The growing capacity of the media also creates opportunities for groups that rarely had access to channels of communication in the past. Once again, Nebraska could show the way. ***Native American Public Telecommunications (NAPT)*** is a national nonprofit corporation composed of a number of public television stations and a group of Native American program-makers. It seeks to ensure an Indian voice in public broadcasting. *NAPT* develops, promotes and manages a variety of media services, including public radio, television and interactive media such as the Internet.

Headquartered in the Nebraska Educational Telecommunication Center in Lincoln, *NAPT* has nurtured the development of award-winning film and video productions, including *Surviving Columbus*, *In the White Man's Image* and *Last Stand at Little Big Horn*. It makes its productions available for educational sale and broadcast use through Vision Maker Video service, the nation's largest collection of authentic Native American programs. NAPT's Production Fund currently is focusing on developing a major feature-length drama for theatrical and public television release, and a major public television series, *Native Americans In the 21st Century*, to air on PBS during 2000.

Among *NAPT's* other services is the *American Indian Radio on Satellite Network* (AIROS), which broadcasts to a growing family of Indian-owned and public radio stations across the continental U.S. and Alaska. AIROS's flagship series is *Native American Calling*, a daily call-in program that covers a wide range of topics important to Indians. Also in development is the American Indian Music Service, which will offer native music programs to AIROS affiliates and other stations over the Public Radio Satellite Service. *NAPT* recently assumed management of *INDIANnet*, a Native American-owned and -operatedWeb site that offers information access to tribal America. Plans are underway to broadcast *Native American Calling* in real-time audio over *INDIANnet*.

At the request of the Census Bureau, *NAPT* and *INDIANnet* are serving jointly as one of five Lead Information Centers in the nation. In this capacity, *NAPT* is housing a library of Census research materials in both paper and electronic formats,and it used its various outlets to help communicate the importance to Native Americans of being counted in the Census.

4

Central Indiana: Universities and Public Broadcasters Join Forces

- **IUPUI**
- **WFYI**

The city of Indianapolis is at the center of an area of Indiana that includes Bloomington to the south and Muncie to the north. It calls itself "the crossroads of America," and it is rich in universities and public broadcasters, all of them linked in formal or informal partnerships. WIPB-TV in Muncie is licensed to Ball State University. WTIU-TV in Bloomington is licensed to Indiana University. In Indianapolis itself, WTBU-TV is licensed to Butler University, while ***WFYI-TV*** is a community station with close links to ***IUPUI*** (Indiana University-Purdue University at Indianapolis). Both the Bloomington and Muncie campuses boast public radio stations as well – as does *WFYI* in Indianapolis.

By any reckoning,this is an agglomeration of powerful resources, all of them dedicated to education. Separately, they can (and do) fulfill important missions. But what could they do, together, if they were all members of a community alliance for central Indiana? They may have the chance to find out, because *IUPUI* has announced that it is to build a Communications Technology Complex on its campus in Indianapolis,and has invited *WFYI* to relocate to it. This could be an ideal basis for a powerful community alliance, with education as its central mission.

It is much needed. Indiana stands 48th in the Union in the percentage of resident adults with college degrees. It is 45th in the most recent SAT rankings. And it is 50th (and last) in the percentage of its workforce in professional or specialty careers.

IUPUI and *WFYI* are long-time collaborators. *IUPUI*'s Community Learning Network offers *WFYI* viewers an opportunity to earn an associate degree in General Studies entirely through telecourses. The two institutions co-produce the Indiana State Geography Bee; they work together on archaeology and geology projects; they run an annual essay and oratory competition for local high school pupils. All this is what might be expected of collegial institutions. But now, as *WFYI* acquires its new digital capacity, and as *IUPUI* develops a new generation of technology (it will provide the backbone for Internet2, which is the next, and very advanced, generation of Internet service), and as the two of them, hopefully, become neighbors in the Technology Complex, it is possible that Indianapolis could become a model for partnerships between academia and media. As the basis for a community telecommunications alliance, no model is likely to have more potential.

Universities and public broadcasters have their own agendas. *IUPUI*'s Communications Technology Complex is conceived, first and foremost, as a place to bring together the university's many academic programs related to information technologies – Informatics (New Media), Music, Journalism, Library and Information Science and so on. It is also to be the headquarters of some of the most advanced technological projects in the country – the Abilene Network and TransPac, the Asia-Pacific Network, a number of activities related to the development of Internet2 and the Indiana Pervasive Computing Research (IPCRES) labs,which will be doing both theoretical and applied research on telecommunications developments of the near and distant future.

So where does the community fit in? The Indiana Learning Collaborative is a good example of *IUPUI*'s involvement with local institutions. Based on the premise that teachers need a powerful "one-stop-shopping" source for enrichment courses, the Collaborative was designed by *IUPUI* and the Children's Museum of Indianapolis as a way for cultural institutions to support the work of classroom teachers. Here we have all these wonderful public institutions, they reasoned; surely we must find a way for teachers and students to make use of them as a regular part of their classes. With *IUPUI* designing the technology, and with teachers, educators, and leaders of the cultural institutions working together on content issues,the Collaborative has set out to create curriculum-based electronic learning modules that can be delivered via the Internet directly into classrooms. With the support of the Indiana Department of Education,the Collaborative is expected to reach all teachers and classrooms in Indiana within six years. Already, with Marion County in Indianapolis as the test-bed,it involves institutions as varied as the Museum of Art,the Zoo,Traditional Arts Indiana,the state's Historical Society and Young Audiences of Indiana – all of them working closely with the public school system and its teachers. It is a model that every community in the country would do well to study.

The other principal element in the Communications Technology Complex will be the *WFYI* Teleplex,which includes *WFYI*'s radio and television stations, as well as FYI Productions (a full service subsidiary that specializes in video production, teleconferencing, and signal distribution). *WFYI* has a 30-year history as a community broadcaster. Its *Ready to Learn* services rank with the best, and most extensive, in the country. Last year, in partnership with Indianapolis-Marion County Public Library, it distributed 4,200 books to central Indiana daycare centers whose enrollees attained modest reading goals. At any one time, it has more than 1,000 people participating in its GED on TV courses. With the Ameritech Advanced Video Network, it connects more than 130 central Indiana schools to at least ten electronic field trips each semester (*Cruising the Planets, Native American Heritage, Live from Antarctica*, etc.). It provides help to job seekers, reading services to the blind, town hall meetings,statewide "mock elections" for schoolchildren and their parents,a teen book commercial project (again,in partnership with the Public Library),and telecourses (with *IUPUI*) for more than 1,200 students. *WFYI* has a very impressive resumé.

More than most public broadcasters, *WFYI* also has a record of collaboration. It has outstandingly good relations with commercial broadcasters in Indianapolis (some of them are represented on its board). It has formed a genuine partnership with Indianapolis's other public television station,WTBU,

which is licensed to Butler University – they now have a joint programming and joint scheduling operation in place, and they transmit from the same master control. Even more significant for the future, perhaps, *WFYI* has joined with stations in Muncie and Bloomington to form the Central Indiana Public Broadcasting Collaborative. Together, they are developing a "virtual operations center," and they have plans to create a Life Long Learning Channel that will provide for-credit courses and training programs to homes throughout central Indiana.

So here is the basis for a powerful community alliance in central Indiana – a group of major high-tech universities allied to efficient,community-conscious public broadcasters. The Communications Technology Complex at *IUPUI* will form the hub. Its success will be measured by the extent to which it is able to mobilize and include all parts of the community.

IUPUI Chancellor Gerald Bepko says: "WFYI's plans for using advanced technologies to enhance public broadcasting services and educational programming will be complementary and will fit extremely well in the Communications Technology Complex. Public broadcasting for this region should be headquartered in what should become the center for the state's advanced telecommunications activities."

New Mexico: Wanted! An Alliance to Shape Public Policy

- **La Plaza Telecommunity Learning Center**
- **The National Hispanic Cultural Center**
- **RETA**
- **Connect New Mexico**

New Mexico is the fifth largest state in the Union,but the 37th in terms of population (about 1.7 million,half of whom live in the Albuquerque and Santa Fe areas),and 49th in per capita income ($18,814 in 1996). The inequities of service and opportunity are graphically illustrated by telecommunications coverage – most homes have television sets, far fewer have telephone connections. There are seventeen regional phone companies operating franchises in the state, many of them lacking the basic ability to provide bandwidth and access for simple phone services, let alone access to the Internet, broadband, or other proposed digital services. The biggest player, U.S. West,covers the prime areas of the Rio Grande corridor, but apparently finds no business incentive for extending into most rural areas.

Education is an even better illustration. In a state that contains some of the most advanced research establishments in the nation (including Los Alamos and Intel labs), one-third of the population does not possess a high school diploma. And having failed to get one in school, there are alarmingly few opportunities to make up for it afterwards – GED is available through public television, but there are said to be only twelve qualified GED testers in the entire state, and no money has been forthcoming to provide more.

There are increasing numbers of people in New Mexico who see the use of new technologies as being, if not an alternative to the injection of significant money, then certainly an option that must be pursued. They ask why the state's system of educational telecommunications appears to be uncoordinated and semi-compatible. There seems to be a denial of the principle inherent in the development of other states and communities reviewed in this report,that it is necessary for *all* the public media (users and providers) to work in alliance if the new technologies are truly to be harnessed to the public need. It is symptomatic that the tools ready to hand – like public broadcasting – are not being given the encouragement they need or deserve. In the case of public broadcasting (three New Mexico stations, licensed to three universities and the largest public school system),there is a lack of awareness that public television's new digital system will provide state-wide coverage by *multiple* channels on *multiple* platforms.

Part of the problem for public television in New Mexico (according to Mark Stanislawski of KNME-TV in Albuquerque) is that the computer is seen as *the* educational tool of the future. And certainly, it is – but it's not the only one. Television's (and cable's,and very soon,radio's) transition to a digital standard means that these powerful methods of dissemination, in which the state already has a huge investment,are becoming compatible with the computer, and are increasingly using computer technologies as well as broadcast technologies. Public television's reach and coverage should be an enormous bonus for the state's educational system,as it is in virtually every other state of the Union. In the case of New Mexico, it requires that the state government make a further investment in order to ensure that its public broadcasting stations have the necessary hardware in place to meet the federal government's deadline for going digital (2003 for public television).

While it is true that New Mexico epitomizes the "digital divide" (the gap between the "haves" and the "have-nots" in access to the benefits of new technologies),it is also true that the state has a great many initiatives under way to provide, if not solutions, then ways of improving the situation. Coordinating these initiatives and focusing their energy into clearly defined directions and policy objectives is the greatest single need. In the meantime, there are impressive initiatives in both the public and private sectors, and some that span both.

Since 1994, ***La Plaza Telecommunity Learning Center*** has provided free public Internet access and training to residents of Taos. Residents can gain access to the network at the *La Plaza Center*, which is located at the University of New Mexico, and at remote sites in three neighboring communities. In addition, they can reach the network through public dial-in access. Citizens take advantage of *La Plaza's* services to help with schoolwork, look for jobs, obtain health care information and keep up-to-date on local issues.

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La Plaza seeks to empower the public through technology. Instead of just giving people access to information, it strives to help community members become producers of Internet content themselves.

Nancy Montano, La Plaza's outreach and content coordinator, believes that the Internet provides an important vehicle for community interaction. "Newspapers and broadcasting have become very centralized, making it difficult for everyday people to express their views," says Montano, who notes that the local Taos paper carries less and less community news.

La Plaza works with local and national partners to assist in the development of content that meets the unique needs of the region. It has helped Taos High School put curriculum resources and other items online, including a bilingual student literary magazine. As part of the Benton Foundation and National Endowment for the Arts' Open Studio program, *La Plaza* helps train artists to create Web sites for sharing their work with each other and the community at large.

Nancy Montana believes that Open Studio and other similar projects enable "people to communicate positive news, instead of all the negative news provided by other media."

In another promising project, ***The National Hispanic Cultural Center*** plans to use new telecommunications technologies to serve schools, communities and cultural centers. Now under construction in the historic Barelas neighborhood of Albuquerque, the center will include a research and literary arts center, a library, archives, a visual arts complex including a museum, a small auditorium and 2,500-seat outdoor amphitheater.

The ***Regional Educational Technology Assistance Project (RETA)*** illustrates the wide range of new technology services available – even in an underserved area like New Mexico – to those with access. *RETA*'s Web page provides online resources for K-12 teachers, the project's target community. They range from organizations focusing on the problems of individual ethnic groups (the Educational Native American Group, which is funded by the federal Bureau of Indian Affairs, for instance) to organizations concerned with a specific part of the curriculum (the New Mexico Collaborative for Excellence in Teacher Preparation, which is funded by the National Science Foundation). They also include a number of general information sites, such as New Mexico Goals 2000.

But how can a state like New Mexico advance from having islands of high-quality service to offering such opportunities to all of its citizens? One thing is clear: to piece such individual undertakings together into a media system that serves everybody in New Mexico, all users and providers of media services will have to work together.

That is the purpose of ***Connect New Mexico***, an organization that includes representatives of the state's telecommunications, broadcast, computer and Internet industries. Originally a consortium of public and private organizations co-sponsored by the state government and the Los Alamos National Lab, *Connect New Mexico* was restarted in June 1999 to encourage the state to develop communications networks that will improve education, health care, government and business. Its members include representatives of state government, industry and the education sector.

The organization's agenda demonstrates the range of issues that public media face, and the inter-relatedness of those issues. In its 1999 legislative positions, for instance, *Connect New Mexico* called, among other things, for programs to provide education and training in rural communities in telecommunications technology. It supported legislation to accelerate deployment and use of technology in education and health care. It backed capital spending to help New Mexico's public television stations convert to national digital transmission standards. It encouraged development of tax incentives for Internet-based and other telecommunications businesses. And it urged state legislators to provide support and funding to higher education institutions for information technology and related infrastructure upgrades.

Leaders of the organization believe that action is urgently needed on all these fronts, and they are not afraid to shout from the rooftops. In the months and years ahead, it will become clear whether anyone is listening.

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CONCLUSIONS

5 CONCLUSIONS

The evidence of this report – admittedly, a very partial sampling of what's going on – suggests that most communities have particular strengths on which they can build. **Kansas** and **Missouri**, for instance, have concentrated their communications resources and their imagination in one principal area – K-12 education, to which they are making major contributions. In doing so, they are garnering a great deal of experience and expertise that can eventually be parlayed into other areas. KCPT, the public television station in Kansas City which has been the motivator for the *MoKan Kids Network*, is already planning to deploy members of the team that developed *AITOL* for K-12 schools into the new field of broadband digital programming. There, they will work in a very small universe to begin with, but one that already exists in schools, libraries and workplaces, and one that will grow quickly as the convergence of television and computer technologies becomes a simple fact of life.

Chicago is an interesting example of the opportunities and potential problems presented by a big city. Several of its leading institutions are energetically involved in the development of new technologies for their own purposes, but no one, it seems, is recognized as a catalyst around which the others can coalesce. The resourceful public broadcaster, WTTW, is a logical candidate, but it seems doubtful whether other major institutions (many of them with national and international reputations of great renown) will be happy to play second fiddle to anyone. So why is it necessary to have a coalition? Why shouldn't all these institutions go their own way and do their own thing? And isn't that, in fact, exactly the way in which the community of Chicago will benefit the most? It may be, but history tends to show the reverse is true – that competing fiefdoms, while looking after their own interests, only succeed in treading on each other's toes. It is generally a prescription for a few 800-pound gorillas doing very nicely, while the smaller fry are content merely to exist, and the underserved remain underserved.

Oregon (like nearby Seattle) is building its alliance on a technology base –partnerships between commercial technology companies and non-commercial interests. That is, maybe, the privilege of a comparatively small number of communities, but it is clearly an excellent place to start. **Indianapolis** (and very likely the whole region of central Indiana of which Indianapolis is a part) demonstrates yet another starting point – the partnership of a very high-tech university with a successful and ambitious public broadcaster. **Nebraska** starts with the same kind of partnership, but Nebraska is unique. No state has invested so heavily in public service media, and no state has been so well served by its investment, which goes back almost 50 years. The wonder is that Nebraska has never stopped moving forward, and has remained always on the cutting edge of technology. It exists to serve Nebraskans, but many of the projects being developed there have applications far and wide.

New Mexico is not about to become a Nebraska. It is not a model to be emulated – yet it could become one. It already possesses centers of excellence as outstanding as any in the nation. Unfortunately, they are more than balanced by outlying areas that are not only underserved – in many cases they are *un*served, and the commercial companies on which they must rely for service see no profit in connecting them to the grids and networks that the rest of us take for granted.

The solution to such a situation should be a matter of public policy. In April 2000, the federal government seemed to accept this when President Clinton visited New Mexico to announce a $17 million initiative that offers $1-a-month phone service to up to 300,000 Native Americans nationwide. It will be financed by raising the federal surcharge on long distance carriers by seven cents a year per consumer. It is not necessary that the taxpayer should be the sole (or even the largest) source of funding for bridging the digital divide, but it is clear that state governments, such as New Mexico's, have a responsibility to orchestrate the building of an infrastructure in which the various pieces are coordinated and compatible.

Public schools and libraries in the most remote pueblos have the same right to broadband connection as do the schools and libraries of Albuquerque and Santa Fe. It is essential that the state's public broadcasting stations are given help to make the transition to digital. In short, it needs a public commitment, and that, in turn, requires a recognition that the new technologies can do much to transform the state's dismal record in K-12 education.

The new technologies are not a panacea, but they are certainly a means to an end. In New Mexico, and in communities with similar problems, they are capable of enabling education, civic government, public health and social services to take a giant leap forward. That is why, once the commitment is there, New Mexico could very quickly become a model for those parts of the country that are at present underserved. But the commitment has first to be made.

Lessons from Existing Models

The examples presented here contain lessons for other communities. Taken together, they emphasize the importance of a few general principles.

1. ***Embracing the new technologies.*** The only approaches with any chance of being successful are those that unreservedly embrace the new technologies, and use them to create the new kinds of content that are necessary. Traditional forms of public media – such as public broadcasting, cable access channels and community networks – need not be left behind. On the contrary: they can actually benefit the most because they already have resources that can be adapted and developed in the new environment. But they have to "think digital." A project like Oregon Public Broadcasting's *Rock The World* begins with a web site, not a television program. Nebraska Educational Telecommunications is awash with software designers and programmers. KCPT in Kansas City has a core team of very advanced and very expert digital thinkers. The old world of analog communications is not yet a thing of the past, but it is fast receding.

2. ***Thinking digital means thinking multi-platform and inter-platform.*** Radio is already a feature of the Internet. Video can be streamed to the desktop. Interactive communication is becoming a staple of our lives, whether in text, voice or video. DVDs are selling at a rate

unprecedented in the annals of consumer electronics. It will not be long before television sets and computers are compatible and interchangeable as a matter of course. All these, and many more developments still on the drawing board,have to be taken into account. In the digital universe, they are complementary and potentially interactive.

3. ***The generational divide is very real.*** There is at least one generation in the workplace, and others coming up fast through the educational system, to whom computing skills are second nature, and for whom the digital world holds no terrors, only excitement. Silicon Valley is dictating the march of technology – yet some of the people who still control media outlets,and many more who run public and private institutions that are in need of technological expertise, are of an older generation,some of them (at best) only semi-literate in these new skills. A traditional but forward-looking organization like Connecticut Public Broadcasting saw the necessity of bringing in leadership for its *Mapping the Assets* project from this newer and younger cohort. The same is true of all those public institutions that have been fast off the mark

4. ***The need for a catalyst.*** The communities in the vanguard of this movement to harness new technologies to the public interest have another thing in common. In every case, they are coalescing around an institution (or a partnership) that has been prepared to go out front and become the catalyst. Whether this institution is a public broadcaster, or a university, or any other kind of institution,seems immaterial – provided it has the trust of the community as a whole, and provided it is willing,to some extent,to subsume its own interests in those of the community. There are places where very little is happening (New York City is one of them), partly because no institution has been prepared to offer itself as the catalyst.

Creating Demand:The Role of the Marketplace

There is no point in trying to create a service if consumers don't want it.That is obvious,and yet (in this case) not so obvious,because a lot of the innovative services made possible by new technologies are hard to imagine for the great majority of us. Is it really necessary for high school curricula to be offered online? Is it either helpful or safe for doctors to examine patients on long distance two-way video hook-ups and then prescribe treatment? Does it help the cause of democracy for politicians and civic leaders to be constantly accessible to constituents who have their e-mail addresses – or is it a quick road to anarchy? These are the sorts of questions that cynics (and realists, too) will be asking. Only by piloting and demonstrating such services can you show people what an important extra dimension the online curriculum can provide, how lives may be saved by doctors using long distance video links, and how democracy can be served if legislators and executives are in more direct touch with their constituents.

This is exactly the way in which the commercial marketplace was developed by new technology visionaries. They invented the tools – we tried them out – demand was created. Until we were linked to cyberspace by AOL or one of the other Internet portals, we had no idea what was out there and how it would change our lives. Until we had made use of *amazon.com*, we had no idea how convenient e-commerce might be. Until we had paid our first household bill electronically, we had no idea how much time it might save.

The noncommercial market is no different. It involves a process of experimentation and demonstration.

In the case of community alliances there are two outstanding reasons for believing that the marketplace will support them. One is education. It remains the most important concern of the vast majority of Americans – because it is the only obvious avenue to a successful life.

The other, which is more amorphous in theory, but tends to be very real in the lives of most individuals, is summed up in the word "community." It involves all the services and support systems we rely on for daily existence. Some of these services are essential (public health, law and order, public safety, opportunities for democratic participation, welfare and other social services); some are merely useful and beneficial, but nonetheless important (museums, theaters, sports clubs, childcare groups, voluntary societies, and so on).

Nevertheless, the market (the community) must first be made aware of what sort of services a community portal can provide. How will they be delivered? How useful will they be? What are they going to cost?

In order to make the case – in order to create demand – the community alliance will need to have its own places for experimentation and demonstration. Ideally, it should have its own laboratory – or access to someone else's.

Laboratories and Clearinghouses

Traditionally, engineers and technicians have produced a product and told us how to use it. But digital and computer technologies are infinitely more flexible: they can be harnessed to almost any purpose we come up with. A teacher or a librarian will know what the end product needs to do;he or she can approach the designers,describe the purpose and specifications,and then wait for them to work their magic and create the product, whether it be hardware or software.

The pattern can be seen in the Nebraska *CLASS* project outlined earlier in this report – educators request an online version of the high school curriculum; NET's Interactive Media Group finds federal funding,designs it and delivers it. A similar pattern can be seen in the *AITOL* project designed by *KCPT* for the MoKan Kids Network.

What NET in Nebraska and KCPT in Kansas City have in common is that they have developed what amounts to a laboratory – a digital lab, where new services can be developed for educational use, and potentially for democratic, social,and cultural purposes as well. Some of these will be narrowly defined for their own communities or for content areas in which they specialize, some will have much wider applications – but all of them must start by being designed in response to a particular need of a consumer or user. Oregon Public Broadcasting has seen the need for an online project in which young people, 8-to-14 year-olds,can participate – hence *Rock The World*, which starts out as a Web-based initiative and develops into a multi-platform project, tailor-made for the world of broadband digital programming. That project might well form the basis for a lab specializing in projects for young people – just as Nebraska's proposed National Center for Information Technology in Education (*NCITE*) might become a focus for educational research and experimentation for the nation as a whole, and IUPUI's Communications Technology Complex in Indianapolis might do the same in continuing and higher education.

Labs do not have to be grand and expensive. WHYY in Philadelphia is planning a portable lab – a facility containing basic digital television and computer equipment that can be taken around the Delaware Valley and used by institutions and individuals to experiment with content development and demonstrate the results.

Given that a lot of experiments are already taking place around the country, and that a great many more will get under way during the next few months, it is essential that information about the experiments should be disseminated as widely as possible. America's Public Television Stations (APTS), with support from the Corporation for Public Broadcasting (CPB),has created an online clearinghouse for this purpose within public television. It would be useful if similar clearinghouses could be established by central organizations for the other principal institutions (from associations of influence, like the Council of Mayors and the National Governors Association,to professional organizations representing education, health, libraries, museums, etc.), all of them,hopefully, cross-linked with APTS's and with each other.

Funding Community Alliances

Once demand is established,funding will follow.

That is a statement that may be treated with some cynicism by hardened veterans of public broadcasting and other public media enterprises, but there is evidence that it is true, and there are good reasons for believing it will happen.

An examination of the individual lines spelled out in state and local government budgets, in philanthropic budgets, even in corporate budgets, shows that very few of them are available to public television. But if you scan the same budgets for "education," "public health," "environment," "civic democracy," "child development," then literally hundreds of budget lines become available.

So long as public broadcasting has been looking for funding on its own behalf, it has been severely limited. Once it is in partnership with community institutions,when it is just one element within a community alliance, then the possibilities are greatly increased.

Hard evidence is beginning to accumulate. Governor Rowland of Connecticut saw the potential of the alliance being assembled in his state and put down $10 million for its development. The state of Texas did the same thing for community networking and technology centers. NET in Nebraska found federal funding for its CLASS project (part of it from the General Services Administration,part of it from the Department of Education) and for its Grassroots project (from the Department of Agriculture). Important philanthropic institutions (The Lilly Endowment,The Ford Foundation, and community foundations in several cities) are making substantial grants to speed the development:they, too, have seen the possibilities. Equally telling, a number of major technology companies (IBM,Thomson, Bell Atlantic, Intel) are discussing in-kind partnerships with local alliances.

There is no fairy godmother waiting in the wings. There is no point in sitting around hoping that the federal government will institute a spectrum fee, or any other form of taxation, to support these enterprises. But once the need for them is established—once they can be shown to fulfill a community purpose—then there is every chance that funding will be available to meet the need—both commercial and noncommercial funding, both public and private.

Public Policy

To the extent that government policy can influence this development,it is by helping to create a context,or environment,in which communities (and all the elements within communities) are positively encouraged to participate. One aspect of this is making sure that the new technologies are widely available, that they are not just tools for the more affluent sections of society.

Two principles have long been embedded in the legislation that defines U.S. telecommunications policy. *Universal service* is an obligation of telephone companies. Broadcasting in the *public interest, convenience and necessity* is a requirement of radio and television licensees. Neither obligation is met in full.

Both of them are frequently sublimated to commercial considerations – and not surprisingly, since the mass of deregulation in the 1980s encouraged operators to use the marketplace as the principal arbiter.

From the point of view of community alliances,universal service may be the most important of the two principles. Everyone has a right to be connected, whether they live in the most remote pueblo in New Mexico or are part of the biggest conglomerate in New York. Without basic telephone connection, most of the benefits of new technology are denied.

The E-Rate demonstrates one way in which government can successfully promote the use of new technologies in the public sphere, and, by doing so, help to create the environment that is needed. The E-Rate is a federally managed program that provides significant discounts (between 20 and 90 percent) to schools and libraries for the acquisition of telecommunications technologies. It covers Internet access, video conferencing services, high-speed data connections, phone service, and certain types of internal wiring and network equipment. Created in 1993 to ensure that all Americans could afford telephone service, it was made effective by the 1996 Telecommunications Act, which required local and long distance telephone companies to contribute to the fund. So far, the discounts given by the E-Rate amount to more than $6 billion. A recent report by the Benton Foundation and the Education Development Center/Center for Children and Technology showed that it was working well in four cities surveyed (Milwaukee, Chicago, Cleveland and Detroit). Internet access in schools and libraries has dramatically improved,and each district has been able to create a robust,high quality network infrastructure.

The public interest obligations of broadcasters have been the subject of a recent Advisory Committee report (the so-called Gore Commission). It has made a series of recommendations that are currently being considered by the FCC and will eventually be debated in the Congress. Without any doubt, commercial broadcasters can make a significant contribution to community alliances. In a city like Indianapolis,where commercial and public broadcasters have collaborated closely over the years, it is clearly intended that the commercial stations will play an important role in the alliance's composition and activities – and it will be seen as a fulfillment, in part, of their public interest obligation. It is a model that the FCC, and commercial broadcasters in general, would do well to note.

There are other, equally important, principles that have long been a part of public policy in this country. Diversity, localism and opportunity advancement are three of them. Their antithesis is the digital divide – the gap between the haves and the have-nots in the world of the new technologies. On no account must this divide be enlarged. On all accounts, it should be bridged. Public policy has a responsibility to provide the context and the means by which this is possible.

Diversity, localism and educational advancement are central to the community alliance concept,and to the extent that public policy can promote them (and encourage the marketplace to promote them) it will also be promoting the alliance idea – because, together, they will create the environment within which the alliances will have their being.

The Time is Now

It is impossible to deny that we are in the midst of a revolution – a revolution that is fueled by new technologies, that is affecting the whole of American society. A country that has its origins in revolution cannot be shy of such a happening – but, however exciting, revolution is generally an uncomfortable experience because it signals change. Like the last grassroots revolution in our history – the industrial revolution of the nineteenth century – this one will bring with it great riches for a few (it is already doing so),great benefits for most of us,and a considerable amount of upheaval for all of us.

What is important now is that the benefits of the revolution should be spread throughout American society – if not evenly, then at least comprehensively. That means that they should be available not just to governments and corporations and universities,but to the most basic units of our society – the communities in which we live and work.

Commercial interests, as always, have shown the way. They have moved quickly and effectively to harness the new technologies to their own purposes. The public and noncommercial sector dare not be far behind. It has a window of opportunity now. The window is created by a confluence of events – the adaptation of online technologies for an ever-increasing number of purposes; the availability of digital frequencies for broadcasting; and the coming of broadband (not far away) as the most powerful communications medium of the immediate future.

It is impossible to say how long or how wide this window of opportunity will be. All that is certain is that the window exists now, and that it provides the ideal circumstances in which communities can develop, for themselves,a new kind of entity – a communications alliance, or portal, in which education, democracy and public health will be the major beneficiaries,and in which all community interests can meet and participate.

The opportunity awaits.

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examines the impact of the federal E-Rate program, which has invested billions of dollars connecting America's schools and libraries to the Internet. The report analyzes the E-Rate's controversial political history and explores the effects of E-Rate funding in four Midwestern Cities: Chicago, Cleveland,Detroit and Milwaukee. The report concludes with a valuable collection of online resources regarding the E-Rate, education technology and the digital divide.

2000/ 67 pages

Making Television Matter

helps broadcasters, producers, funders and community organizations learn how documentary films can engage and mobilize communities. Making Television Matter is a mix of voices and perspectives,bringing together first person narratives of outreach campaign partners – filmmakers, nonprofit leaders, public broadcast outreach staff and funders – with case studies by journalists and evaluators, how-to's, practical guides by media experts and reports representing the collective thinking of many organizations.

2000/ 87 pages

Native Networking: Telecommunications & Information Technology in Indian Country

provides government policymakers, tribal leaders, and public interest advocates with essential resources and analysis. The report analyzes the critical telecommunications and information technology policy issues facing tribes, focusing on the interaction between Indian sovereignty and federal and state regulation in a quickly changing policy and practice arena. Summaries of basic statistics on information technology in Indian Country reveal both the obstacles to change as well as the opportunities tribes face. The report details funding sources, current telecommunications projects in Indian country, and technology-focused Native businesses and identifies organizations that can be of help. A glossary of key terms and sources for additional information are also included.

1999/ 90 pages

Networking for Better Care: Healthcare in the Information Age

looks closely at the ways new communications technologies are transforming health care, describing both the promise and pitfalls. New technologies can expand patients' and professionals' access to information about illnesses and treatment; provide patients, caretakers, and families with much needed support;help individuals learn more about health care options;and bring new forms of assistance to people in underserved areas. At the same time, a growing "digital divide" threatens to add a worrisome new dimension to inequality in America. Networking for Better Care suggests ways to prevent that split by creating a health information system built on the values of access and equity. The report provides annotated resources for more information and further study.

1999/ 54 pages

Buildings, Books & Bytes: Libraries and Communities in the Digital Age

uses survey research and focus group data to explore a question that is vital to libraries' future: how well do library leaders' visions for the future match what the public wants from libraries? The report finds strong public backing for libraries. The public wants libraries to take a leadership role in providing access to computers and digital information. But the report sounds some alarm bells. The youngest Americans polled,between the ages of 18 and 24, were the least enthusiastic about libraries in a digital future. Buildings,Books, and Bytes cautions that the public wants some combination of books and bytes. It supports maintenance of traditional library services,as places where people can read and borrow books, and parents can find programs for children. The ability to bridge the distance between books and bytes,and to offset high-tech with high-touch will be required of any effective library leader as we enter the digital age.

1996/ 46 pages

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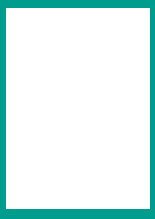

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