What Communities Need to Do

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The passage of the Telecommunications Act of 1996 began a transition from a regulated telephone monopoly system to one which relies on competition and embraces free-market incentives to serve the public. In this time of transition and change, representatives of libraries, schools and civic groups, etc., must be more informed and vigilant than ever before to properly guide the development of technologies and policies that will serve the information and communication needs of everyone.

To that end, I have included excerpts from a recent guide, "Blueprints for Action: A Guide to Advocacy at the Local Level," developed by the Alliance For Public Technology Board, of which I am president. The guide will help communities promote a communications revolution that enables all individuals to connect to an array of information and interactive communications technologies. Information and communication services must be available to all individuals, regardless of income, disability, place of residence, race or other demographic characteristics.

The Alliance For Public Technology is a coalition of individuals and more than 100 non-profit groups who share a vision of equal access for all to telecommunications networks capable of a variety of information services. The networks must accommodate high-speed, switched, two-way transmission of voice, data, graphics, and video. We call this "advanced universal service," an extension of our nation's historical commitment to universal voice telephone service.

While the 1996 Act provides a broad policy outline for a competitive telecommunications marketplace and includes an advanced universal service goal, it neither mandates nor funds the build-out of a modernized national telecommunications network capable of "connecting each to all." Instead, the act relies on competition and the entrepreneurial marketplace to drive investments in such an advanced infrastructure by private sector companies who are in the telecommunications business to make a profit. The reality of competitive business investments is they follow effective demand that can be readily developed and exploited. Segments of communities which are "marginalized" in the normal operation of telecommunications markets will have to organize and develop marketplace savvy to have any impact on investment decisions of competitors—decisions which largely determine when and how advanced telecommunications capability will reach their homes.

On May 7, 1997, the Federal Communications Commission (FCC) issued new universal service regulations under the Telecom Act. The FCC primarily focused on ensuring basic voice telephone service to individuals who are economically disadvantaged or living in rural or "high-cost" areas. The Act specifically included certain community institutions in the universal service requirements. The FCC's regulations therefore provide discounts to schools and libraries of up to 90% for all commercially available communications services, including the Internet, and ensure that rural counterparts for high speed transmissions of up to 1.54 million bits per second, or T-1 speed. These discounts are supported by explicit funding totaling up to $2.65 billion per year. The discounts, however, are not automatic, but must be applied for — after significant planning work is accomplished — and the majority of the fund will be distributed on a "first-come, first-served," basis.

The Act also included important provisions ensuring access for people with disabilities. New FCC rules, yet to be issued in a separate proceeding, will help ensure telecommunications services and equipment are designed to be accessible to and usable by persons with disabilities.

The FCC's universal service order will be reevaluated in 2001. Advocates can argue again for a national commitment to the deployment of advanced networks and services to all residents. The FCC took a cautious approach. The opportunity to argue for advanced universal service is now in the hands of the states, commonwealths and territories which will decide how to implement the act within the FCC's guidelines. States must at least meet the federal standards, but they are authorized to justify broader definitions for universal service—and their citizens have the opportunity to advocate for policies that will encourage the deployment of advanced services to all.

Competition and the marketplace is becoming as important as the public policy area in determining who has access to telecommunications equipment and services. In addition to telecommunications we are faced with these same issues in health care, electric power, public welfare, etc. It means new strategies for operating effectively as savvy communities. It becomes important to understand and deal with these developments.

Within this procompetitive market-oriented telecommunications framework, we need to pursue "demand aggregation" as a primary strategy, thus helping our community to present viable market segments to competing providers and encourage the benefits of shared networks over the limitations or dedicated lines. It is also necessary to continue to promote policies for achieving equity of access as many of the people and areas we represent are those whose needs are often overlooked in a market-driven environment. It is even more important today to encourage cooperative design activities as well, envisioning community-driven partnerships, to serve the real needs of our residents.

What follows are excerpts of a recent guide produced by the Alliance For Public Technology. It is based on the premise that grassroots coalitions can, and should drive the decision-making in telecommunications, both in policy circles and in the marketplace. These are strategies, which represent the current thinking of the board about how we can achieve equitable and affordable access to advanced telecommunications technologies and worthwhile electronic services.

I. What's At Stake? Advanced Universal Service

Advanced universal service is defined as "access to switched, high-capacity networks that allow users to originate and receive high quality voice, data, graphics and video messages." This access should be affordable and usable by all residents of the United States, regardless of a user's background, income, geographic residence, or disability.

Why is this important? Because new technologies and electronic information services are becoming essential tools for operating in today's society. It is estimated that by the year 2000, 60% of all jobs will require skills currently held by only 20% of the population. Doctors are treating patients via telemedicine networks, and students are participating in interactive classes via distance learning networks. About a quarter of households have Internet access, and experts estimate that 50 million people log on at least once a week to gather information, post messages, or just chat with friends and family. One cannot pick up a trade publication—in any field—without reading about new computer and telecommunications applications that are improving efficiencies, increasing effectiveness, or introducing new service opportunities.

With advanced telecommunications applications squarely in the public spotlight, what is the problem? It's access. With these applications now providing their worth, access to telecommunications services becomes essential to operating successfully in this society. Unfortunately, universal access to advanced electronic networks and services is anything but guaranteed.

The Internet has received widespread media attention in recent years, and Internet access has proven valuable for individuals in businesses as a way to have "desktop" access to vital information and expedient communications. With the explosion of the World Wide Web and the accompanying need for speedier downloading of graphics and large amounts of data, the Internet has also inspired consumer demand for more bandwidth in the public telecommunications network.

But the Internet is just one component of the vision of "advanced universal service," which also includes high capacity, switched, two-way communication networks that enable users to originate and receive affordable, usable,

high-quality voice, data, graphics, and video services. With the ability to use the public network (instead of leased, dedicated lines) to conduct video transactions, comes the ability to:

- ✔ seek medical attention from your home instead of driving to the emergency room at 3 a.m.;
- ✔ participate in truly interactive lifelong learning opportunities while your children sleep or play in the next room;
- ✔ telecommute to meetings without losing the advantage of body language; and
- ✔ engage in meaningful long-distance visits with family and friends– which may indeed be the ultimate application.

In telecommunications jargon, Internet provision is a "fully competitive service," which means that the government does not regulate it, and providers set up shop in places where they think they can make a profit. In the future, services that are now regulated, including local telephone service, will also become competitive. The challenge of regulators is to guide the transition to competition in a way that is fair to the competitors and ensures all customers continue to get good quality service.

Is advanced universal service a realistic goal within a competitive environment? Many believe it is and must be, if we want to maintain our country's founding document of equal opportunity. Universal access to advanced telecommunications technologies must be viewed as critical and a prerequisite for equalizing opportunities in other spheres — economic, political, educational or social.

The mission of the Alliance for Public Technology (APT) is to help various communities develop their own vision of the benefits of new technologies, and to develop their own strategies for transforming those visions into reality. So far, we see two important spheres for this work: the marketplace and the policy arena. In the following section, strategies are outlined for communities to operate wisely in the marketplace to fulfill their needs.

II. Marketplace Strategies for Achieving Advanced Universal Service

Congress has chosen the marketplace as the primary mechanism to ensure all Americans get affordable access to advanced telecommunications services. For customers whose market power is recognized by telecommunications providers, access to advanced services will come early: investments will be made, services will increase, and prices will drop as more subscribers take new services and more competitors vie to provide them. Unfortunately, this trans-

lates into the information rich getting richer before the needs of the information poor can be addressed and served.

Many of us represent constituents who either lack market power, or whose potential market power is overlooked. Rural communities, for example, are sometimes considered to be less-desirable markets because potential customers are widely dispersed. Inner-city urban areas are often considered to be less-desirable markets because of low median household income levels, even thought the residents of these areas often spend larger proportionate shares of their incomes on communications services. Individuals with disabilities are sometimes overlooked, even though they prove to be avid consumers of advanced services because of the equalizing power of adaptive technologies. And older Americans, a demographic group that is often discounted, are among those who need to receive the full benefits of access.

To ensure investments are made to serve all Americans, we will need special strategies to marshal market forces in favor of these and other customer segments. Here, we talk about four marketplace strategies:

- ✔ forming coalitions to aggregate demand;
- ✔ leveraging new discounts for schools, libraries, and rural health care providers for an entire community;
- ✔ educating customers about new technologies; and
- ✔ cooperating with telecommunications providers to design systems and services.

A. Forming Coalitions to Aggregate Demand

It is APT's vision that communities are the primary focus for organizing access to new telecommunications technologies. Community-based applications will drive up the adoption of new technologies by the broadest spectrum of society. Up until now, instructions have usually focused narrowly on their own uses of new technologies, often building unique systems and/or software for themselves and their clients. While this approach yields the illusion of control and efficiency for each institution, the overall result is systems that don't talk to each other, unnecessarily high costs, continuous and steep learning curves, and such fractured demand for services that service providers can't recognize as a viable market.

These results, in turn, hurt users. In the foreseeable future, many individuals will have neither the proper training nor the financial resources to make use of, or actually purchase new and advanced technologies. Most publicly-supported institutions will have to struggle to integrate information or applications which cross traditional institutional boundaries, or which involve copyright-protected information.

At present, modernized, high-speed networks—and more than one telecommunications provider competing to provide services—are available primarily to large businesses and institutions which contract for large amounts of telecommunications services; to areas where high-technology businesses have clustered; and to communities which have made a conscious economic development decision to attract infrastructure investment by leveraging the purchase power of governmental institutions. What happens, then, when one or two small businesses or residential customers want to purchase high-speed data services? The service is not available, because most local providers cannot justify the cost of the necessary investments for just a few customers.

One solution to this problem is called "demand aggregation." By articulating a strong common need for telecommunications equipment and services, a coalition of small users can attract the attention of telecommunications providers. Furthermore, if this coordination can occur early in the implementation process, community-wide solutions can be formulated so that larger local institutions do not invest initially in private systems.

Aggregating a community's demand for our usage of services can take many forms. Forming a buying coalition to negotiate better rates, just as large businesses can do on their own, is one strategy. Organizations in a unique position to coordinate such an effort include school districts, town libraries and Chambers of Commerce or community economic development councils, who work to create a better environment for small businesses as well as large. Information and referral service providers, who are in the business of knowing which agencies—government and non-government—are providing health and human services to a community; and discount-eligible schools, libraries, and rural health care providers, who are required to do a significant amount of planning and engage in a competitive bidding process before they receive their new discounts (discussed at length below).

Community networks, which often operate as no-profits with a mission to bring affordable Internet access to underserved segments of their community's population, often serve as demand aggregators. While all community networks are different, many strive to serve as repositories for information about their community—local government agencies and non-governmental organizations providing public services; job opportunities; educational offerings; health and human services; and available housing and commercial space. Some work to contribute to the economic development of their community; some focus on providing public access terminals in libraries, shopping malls, or public buildings; some serve as coordinators for programs designed to refurbish and recycle past-generation personal computers for use by those who could not otherwise afford one.

Programs for at-risk youth are increasingly including computer training and Internet access in their activities; job training programs and welfare-to-

work initiatives are, too. Across the country, creative community based non-profit organizations—well-accustomed to filling the gap between government and the marketplace—are increasingly accessing information services to serve their constituencies, as well as for their own administrative purposes. Higher education institutions and community colleges are pioneers in the field of providing access to advance services in a community. And state and local government entities continue to wield impressive market power as large purchasers of telecommunications services—when viewed collectively and not as individual departmental budgets.

These are all organizations that can be involved in a community-wide effort to aggregate demand for services, sharing the costs of leasing a high-speed line, or negotiating with service providers to make the services available at bulk-buying rates. Such a coalition could also apply for grants like those administered by the Department of Commerce's

Telecommunications and Information Infrastructure Assistance Program, which prefers to fund broad-based community coalitions instead of isolated, limited use applications. The effort won't be easy; organizers will face turf battles and culture clashed. The benefits, however, will be worth it if the result is a "wired community" that is attractive to potential employers and taxpayers and serving residents' needs.

B. Leveraging Discounts to Schools, Libraries, and Rural Health Care Providers for an Entire Community

The Telecommunications Act of 1996 established discounted rates for elementary and secondary schools, libraries, and public non-profit rural health care providers, and an explicit fund to support the discounts. The Fund Administrator is the National Exchange Carrier Association (NECA), which has established two separate entities—one to administer the school and library fund of up to $2.5 billion per year, and the other to administer the rural health care fund of up to $400 million per year.

1. Schools and Libraries

Schools and libraries can qualify for discounts ranging from 20% to 90%, but they must apply for them—and the majority of the $2.25 billion fund will be awarded on a "first-come, first-served" basis, with the balance reserved for allocation and consideration given to need. Eligible schools include all elementary and secondary schools (public, private, and parochial) as defined by the Elementary and Secondary Education Act of 1965, as long as they have endowments of less than $50 million. Eligible libraries include public or non-profit libraries meeting the definition in the Library Services and Technology Act who operate with a budget separate from any institution of learning. (School libraries will be funded as part of the schools).

Participating schools and libraries are required to develop plans which must be forwarded to the Fund Administrator. While the FCC's universal service order is under appeal to the courts and may be stayed until the appeals have been resolved, if it is not delayed, then application forms should be available from NECA by Fall 1997. Discount payments will become available on January 1, 1998. The federal universal service fund will support discounts for eligible libraries and K-12 schools on all commercially available telecommunications services, Internet access, and internal connections.

The first step in the application process is a technology inventory and assessment of the applicant's current capacity and plans for the future with respect to the availability of computer equipment and modems; internal network connections and volunteer efforts to install them; computer communications software; experience of and training for staff; computer maintenance contracts; electrical system; and specific plans for using the technology and integrating it into the curriculum.

The level of discount depends on economic need and location (rural or non-rural) of the school or library. Economic need is determined by the level of eligibility in the federal free and reduced price school program. Libraries will use the school lunch eligibility percentage for their local school district.

The federal fund can also support discounts on intrastate (local or short-toll) services, provided the respective state adopts a matching discount matrix for intrastate services.

The discount will be applied to the best rate first obtained through a competitive bidding process. States and communities are encouraged to aggregate demand for services by developing buying coalitions or consortia with other discount-eligible institutions, public (governmental) agencies, and other community-based organizations, including those not eligible for discount subsidies. All members of these coalitions will benefit from the best rate obtainable in the market, although discounts will only flow to the eligible entities. All members of the consortia will be to the extent that mixed consortia are restricted to purchasing at tariffed rates on file with a regulatory agency, a restriction that only applies to interstate services purchased from incumbent local exchange carriers, it should be noted that tariffs exist with better rates for bulk-buying—and in some states, special negotiated tariffs my be filed.

Merely connecting schools and libraries will have little impart on families and individuals that do not have easy access to these facilities and services. School buildings are rarely open to the general public beyond the school day or the 180-day school year. Many public libraries, unfortunately, have had to reduce their schedules as a result of mounting cutbacks. Consequently, state and local officials have an obligation to develop policies and mechanisms that ensure easy access to groups and to individuals, particularly to populations who

are undeserved by traditional institutions and conventional programs. In short, they must develop plans that extend critical services to an entire populace, and not limit these services to those individuals and families having access to powerful workstations.

2. Rural Health Care Providers

Public and non-profit health care institutions located in rural areas and serving rural residents may obtain telecommunications services at a transmission capacity speed of up to a T-1 line (1.544 million bits per second, or Mbps) at prices comparable to those paid by commercial customers for like services in the nearest urban area in the same state with more than 50,000 residents. Support is also available for distance-based charges associated with the services, equal to the cost of connecting to the city used to calculate the discounted rate. Rural health institutions who do not have toll-free access to an Internet service provider are also eligible to receive the lesser of 30 hours per month of Internet access at local calling rates, or $180 per month in credits for long-distance charges.

The FCC declined to prescribe what medical services would be covered by the rule, leaving that to health care workers, but they did specify the inclusion of public health services such as education and data collection. The FCC did conclude that it could support infrastructure development—like laying fiber lines, for example—in areas where health care facilities cannot otherwise access high speed services, but will issue a future notice soliciting input on whether and how to institute such a program.

Like schools and libraries, eligible health care providers must seek competitive bids for eligible telecommunications services to get the best possible rates before discounts are applied. The fund, capped at $400 million per year, will be distributed on a "first-come, first-served" basis.

3. Planning

Substantial public funds are becoming available to help state and local jurisdictions link governmental services to advanced electronic networks. Federal and state grants, combined with the discounted services for local public institutions, can be used to extend electronic information services to new access points and to individual households. As new policies and resources help to link schools, libraries, and health care centers to "electronic superhighways," broadly-based coalitions should be getting together in order to ensure the benefits of advanced electronic services reach beyond public institutions and to individual households. Responsibilities for maximizing the public benefits of advanced telecommunications cannot be left to governmental officials

and public administrators. A new leadership is needed to create new visions incorporating uses of electronic services for dramatically improving the quality of life and economic opportunity for the vast majority of American citizens.

Planning—at all levels of government—should involve broad coalitions of "stakeholders," those having a stake in the viability and competitiveness of existing organizations and businesses, as well as those willing to create new structures and services for reaching families and individuals having the greatest need for services. There are in fact many choices. No one technology or electronic service will fit all jurisdictions. State and local plans for the deployment of advanced networks and services should recognize their unique needs, conditions, and fiscal capacities.

The Four Basic Steps for Planning:

(1) Inventory local needs and resources. Telecommunications should not represent a solution in search of a problem. Determine the economic, educational, and human service needs, particularly among families and individuals with the greatest needs. A needs analysis should assess a wide range of constituent needs, including: education, business opportunities, health care, jobs, safety, and personal needs of youths and families. Based on these needs, set reasonable goals for achieving a new vision; one which ensures equitable access and use of available services.

(2) Assess the capacity of existing public institutions for extending electronic services to alternative sites and locations, or directly to households. Determine the extent to which public and governmental services can be made more readily accessible, affordable and usable to all citizens. Form new institutional partnerships and consortia arrangements. Invite public and private service providers to participate in an effort to ensure sustainable initiatives.

(3) Analysis of resources. Identify available technical and financial resources. This review should include an identification of available federal, state, and local grants for the application of public telecommunications services. The plan should also identify relevant federal state regulations, and possible waivers. Innovative partnerships between public and private resources can support unique experiments for integrating governmental services, or extending direct services to neighborhoods, households and families having the greatest need for information.

(4) Develop short-term and long-term goals. Plans should reflect the consensus of participating stakeholders. At a minimum, plans should include:

- ✔ a vision statement;
- ✔ a list of partnering groups, institutions, and businesses along with their respective roles;
- ✔ a training component to ensure electronic services will be fully utilized, particularly by groups of citizens who have been marginalized by traditional institutions; and
- ✔ a marketing and business plan to ensure a permanent financial base and sustained support.

C. Educating Customers About New Technologies

Examining the long-distance telephone market, which was removed from the monopoly system in 1984 and has attracted numerous competitors, it appears competition will inspire telecommunications providers to offer customers attractive choices at reasonable prices (and that informed consumers will fare the best). With the local telephone market now opening to competition, our national policy is changing to eliminate the former rate-of-return regulated monopoly, where one company is assigned the responsibility to serve all customers (and the public good) in an area and assured a guaranteed return on its investment in exchange, to an entrepreneurial approach: invest your capital and hope for a profitable return. At stake is the critical, and most expensive, portion of the network: the "local loop," or the last mile. High-capacity fiber passes through many communities in America without providing access—the electronics to connect a digital, high-capacity line to the subscribers it passes are not cheap.

Competition, however, means providers must make tough decisions about when and where they should invest in new technologies and offer new services–every home they pass will not be a captive consumer anymore. They have responsibilities to shareholders, as well as customers, so they are most likely to focus on their most promising markets. If you and your constituents don't look like a promising market, you miss not get served first. To get competitive providers' attention, you may need to empower your constituents to become assertive and well-informed customers.

The first step is to educate your constituents about new communications technologies and their potential uses. If your constituents operate in a particular field (e.g., health care), you could hold a workshop or series of meetings that unites representatives from different local institutions with colleagues in other communities who have successfully implemented telecommunications. Invite local service providers (telephone, cable TV, satellite and wireless companies) to make presentations and answer questions concerning costs and benefits. Circulate trade publications that describe applications and the

processes for implementing them. Identify individuals who are interested in new technologies, and give them the resources to lead their peers.

It should not be necessary for your constituents to know the technical details of the telecommunications equipment they require; they need only be able to describe what they want to accomplish with the technology. Technical solutions will vary from provider to provider, and there will be many solutions to any particular problem.

D. Partnering in Design and Usability Research

"Access" in telecommunications has many dimensions, including:

1. Is the service or network available in my area?
2. Can I afford the service or network?
3. Is the service or network compatible with the equipment I have?
4. Can I use the service or network, given my mental and physical abilities?
5. Is the content of the service or network relevant to me?

Most policy makers focus on the first two dimensions of access, but all five are really important if new telecommunications technologies are to become potent tools for all citizens.

While the requirements are not strong, the Act does stipulate that all manufacturers of telecommunications equipment are required to ensure the equipment is designed, developed, and fabricated to be accessible to and usable by individuals with disabilities, if readily achievable. Likewise, providers of telecommunications services must ensure the service is accessible to and usable by individuals with disabilities, if readily achievable. And, if a telecommunications device or service cannot be made directly accessible to individuals with disabilities, it must be compatible with assistive technology commonly used by individuals with disabilities, if readily available.

In addition, the Act includes requirements for closed captioning of new and existing video programming. It also requires the FCC to assess video description in order to ensure the accessibility of video programming to people who are blind or visually impaired.

The disability access provisions, coupled with the Americans With Disabilities Act, establishes a fundamental principle called "universal design," the idea that all equipment and services would be designed for the widest variety of users, rather than for the mythical "normal" user. Our society is slowly moving away from an "us vs. them" mentality regarding disabilities, and toward the realization that our capacities and abilities change continually over the course of our lives. Designing to the norm does a disservice to everyone.

Within a market-driven system, this puts new pressure on telecommunications providers and consumers to work together on services, equipment, and policies that will serve the widest range of users. Some telecommunications providers have established consumer advisory boards to provide input on new products, services, and procedures.

There are also many nonprofit organizations that provide assistance to people who have special access challenges. These groups are good sources of information about assistive devices and about special grants or other funding options for users who can't afford the technology or service they need.

III. Public Advocacy Strategies for Advanced Universal Service

Public policy decisions affecting telecommunications are made at the federal, state, and local levels. The federal Telecommunications Act of 1996 laid a new policy grounding for the various jurisdictions, premised on competition. The Act is now being interpreted by the Federal Communications Commission (and, as the FCC's orders are appealed, by the courts), and is guiding federal agencies, state legislatures and agencies, and local telecommunications boards and cable franchising authorities.

The FCC is responsible for designing federal regulatory guidelines that will allow states and localities to move toward a competitive telecommunications marketplace.

It was disappointing that the definition of universal service in the FCC's universal service of May 7, 1997, was essentially limited to enhanced voice services. The FCC's order ignored the national goal in Section 706 of the Act which directed regulators to encourage rapid deployment of advanced telecommunications capability to all Americans, and defined those services as "high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology." It also furthered Congress' mandate that implicit subsidies be made explicit, causing some to fear that universal service support mechanisms will be vulnerable to attack by the same political forces that fought for welfare reform, and serving as a warning that vigilance is required to ensure those in need are not relegated to the backwaters of the Information Age.

However, the Act acknowledges universal service should be considered an "evolving concept," and the Federal-State Joint Board—created by the Act to advise the FCC on universal service—will reconvene again by January 1, 2001, to review the definition of universal service. This presents another opportunity for advocates to convince the FCC to establish regulations that commit to the deployment of advanced networks and services to all residents, available through the publicly-accessible network. Factors that influence whether services will qualify for universal service treatment include the extent to which they:

(1) are essential to education, public health, or public safety;
(2) have been subscribed to by a substantial majority of residential customers;
(3) are being deployed in public telecommunications networks; and
(4) are consistent with the public interest, convenience, and necessity.

The FCC's jurisdiction is limited to interstate services; states have jurisdiction over intrastate services. It is now up to state legislatures and regulatory agencies, and local agencies, to implement the FCC's rules. States must at least meet bedrock federal standards, but they can go farther than the FCC in their interpretations of universal service, although they must fund and administer more generous provisions themselves.

Under the FCC's order, states must adopt discounts for schools and libraries for intrastate services, which match the FCC's discounts for interstate services. States may also provide discounts or funds for other organizations, like community-based non-profits or community computing centers, and for other services, like content creation, but the state will have to administer and fund the more generous provisions. States will also have the authority to designate which carriers are eligible for universal service support, and the responsibility of monitoring rates to ensure "affordability," a universal service concept first articulated in the 1996 Act.

Local agencies are involved in telecommunications policies because they control the rights-of-way that are so essential to most telecommunications providers, and because they oversee the process of franchising cable companies. Some city governments are charging providers for use of public rights-of-way, or demanding other forms of payback (contributions to school networking projects, agreements to operate public video production studios, etc.). These decisions are relevant to our concern about advanced universal service because they represent a means for creating publicly-available access points for citizens who many not be able to pay for such services in their homes. At the same time, they may raise the cost of doing business for providers, which could slow progress toward the ultimate goal of advanced universal service to all homes.

With all of these important decisions being made at the state and local levels, grassroots coalitions have never been more important. The coalitions discussed in section II-A above can be powerful voices for the interests of residential customers, small businesses, non-profits, and public institutions like schools, libraries, museums, and government agencies. There are various opportunities for input at the state and local levels where all could be involved.

A. State Legislature

Most state legislatures have established or are working on new statutes to govern intrastate telecommunications in a competitive environment. The introduction of legislation creates many options for public input, including direct communication with legislators, public hearings and "town meetings," and formal testimony. I have only listed those and not gone into detail. Check ith your representative of Senator and local government officials.

B. State Public Utility Commissions

Every state has a public utility commission (PUC), sometimes called a "corporation commission" or a "public service commission." PUCs are situated in the executive branch of government, and they are responsible for regulating intrastate telecommunications. Traditionally, their primary goal has been to keep rates for local telephone service low. New goals for PUCs may include encouraging infrastructure investments or promoting competition in the telecommunications industry. They have pursued these goals by loosening control over rates-of-return or permissible profit levels in return for rate freezes or price caps on basic service and/or specific levels of infrastructure investment be telephone companies, theoretically rewarding a company's productivity while controlling rates to consumers.

PUCs have the authority to review telecommunications providers' plans to offer new services, including the scope of the service and the prices that will be charged. They hold hearings to gather public reaction to such plans, but these hearings are often dominated by competing providers and very large user institutions. It is important that grassroots organizations make their voices heard.

C. Governor's Office and Other Administrative Agencies

Because telecommunications has become such an important issue in health care, education, and economic development, many state governors have become very involved in formulating telecommunications policy. They may establish an administrative office related to telecommunications, or a "blue-ribbon panel" or state commission on telecommunications. They may also focus on a specific user sector, like education or health care, and support targeted funding initiatives to update the telecommunications facilities of that sector.

D. Telecommunications Consumer Advocacy Offices

Approximately half the states have established some kind of telecommunications consumer advocate separate from the public utility commission. These offices are usually charged with investigating consumer fraud, educating customers about telecommunications services and their rights under current

law, and representing consumers in state-level decisions about telecommunications policies.

E. Task Forces, Research Reports, and Other Public Forums

In most states, both government agencies and nonprofit groups sponsor workshops, conferences, or reports that relate to telecommunications. These can include the Governor's office, legislative committees, research institutes at universities, economic development agencies , education coalitions, private non-profits funded by foundations, and other types of groups. These forums are important precisely because they are not formal decision-making bodies: they give participants a chance to consider new ideas and argue openly. They are also a good opportunity to identify the "movers and shakers" in the state.

F. Local Telecommunications Boards, Franchising Authorities, and Other Public Entities

Local communities have been involved in telecommunications decision-making mostly through their authority to franchise cable television service. As part of this authority, many communities have also established "public, educational, and governmental access centers," often called PEG access centers. These centers, usually funded as part of the franchise agreement, give local residents the opportunity to borrow video equipment to make productions that are shown on the local access cable channel. Local cable commissions oversee the administration and operation of the PEG access centers, and periodically review and renew or deny the cable franchise agreement.

Recent developments in telecommunications services are broadening local communities' role in telecommunications decision-making. As more and more services become digital, the traditional lines between modes of communication are blurring. Video signals can be carried over telephone lines, and voice and data can be carried on coaxial cable. Cable companies, telephone companies, and others are now interested in providing video services, which has raised all kinds of questions about the future of local communities' franchising authority. As we will discuss below, Congress has established a new concept of "open video systems" as the basis for competition in the local video services market.

Another recent development is the increased importance of access to local rights-of-way for telecommunications providers of all kinds. City governments are getting involved in telecommunications policymaking because they have control over public rights-of-way, which providers need in order to lay cable and set up satellite dishes. As access to rights-of-way becomes a valuable commodity, cities are learning that they can supplement their coffers or secure other advantages from telecommunications providers. From APT's point of view, the role of grassroots organizations is to help keep city officials' eyes on

the prize, which is a rapid deployment of advanced services to all homes. Telecommunications providers should pay for their fair share for any disruptions they cause (street re-paving, re-sodding, etc.) but gouging these companies with excessive fees will only slow the deployment of new technologies. Grassroots organizations, whose interests include both the well being of the city AND rapid progress to advanced universal service, are perfectly positioned to help create balanced policies in this situation.

A third recent change is how important local entities have become as primary consumers of telecommunications equipment and services. Especially in smaller communities, the local government, schools, and libraries may be the largest customers of telecommunication providers. This puts them in a position to influence providers through their purchase decisions. They might decide to obtain their services via an open platform that can also be used by all citizens, for example, rather than through a closed system that is only accessible to government agencies.

School districts, especially, have impact through their purchases, not only because they are large users but because their purchases influence the technical capabilities of the young residents of the area. For example, in some communities, school districts have had trouble passing school budgets or special bond issues that included large new investments in networking or computers. By getting involved in these debates and helping citizens see the advantages of school networking and education/training for students in new technologies, grassroots organizations are laying the groundwork for our transition to advanced universal service.

Forum	Explanation	How To Get Involved
Cable Commission	Most communities have a cable commission, whose job it is to oversee the local cable franchise, review basic cable rates, and monitor the local cable access channel(s). Commissions usually meet once a month, and their meetings are often re-broadcast on the public access channels.	Get someone from your organization appointed to the cable commission. Attend their meetings, and make suggestions. Offer to make a presentation about new technologies and how they will influence the future of cable and telephone. Organize debates or local forums, and get them broadcast on the public access channel.

Forum	Explanation	How To Get Involved
City Administration	City councils and city administrators make decisions about the city's expenditures for telecommunications, and also oversee access to rights of way.	Attend city council meetings. Organize presentations on innovative uses of information technologies by cities and owns. Work with officials and telecommunications companies to find compromise solutions if conflicts emerge over satellite or wireless tower sitings or right-of-way agreements.
Telecommunication Boards	Some communities have a telecommunications board, which may be the same or adjunct to cable commission. These boards address rights-of-way and service issues in a context broader than cable.	Attend board meetings and meet with board members. Work with officials and telecommunications companies to find compromise solutions if conflicts emerge over satellite or wireless tower sitings or right-of-way agreements.
School and Library Districts	Schools and libraries sometimes make significant telecommunications purchases. When possible, their expenditures should contribute to progress towards advanced universal service. With new discounts available, their decisions may determine what kinds of advanced technology are first deployed in your community.	Get involved in your school and library board meetings. Present the vision of advanced universal service, and help devise plans for the community's migration toward it. Look for ways to make school and libraries the major partners in a demand aggregation strategy. Leverage the opportunity to form buying coalitions and obtain the best rate through competitive bidding processes to benefit the larger community.

Cable television companies obtain franchises to provide cable services in a particular community for a certain length of time, often fifteen years. This system was established to help assure providers that they would recoup their investment in equipment and wiring needed to begin providing service. Each community has a franchise authority, perhaps called a "Cable Commission," that is responsible for overseeing cable television service. The franchise authority meets monthly to discuss the operations of the current franchise and the local PEG access center and channel, and to handle any complaints or problems. Meetings are usually re-broadcast on the public access channel, so that local residents can keep up with their franchise authority's activities.

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