QUESTION 1: Is it appropriate to assume that current rates for services included within the definition of universal service are affordable, despite variations among companies and service areas?

Presumably under conditions of competition, rates will vary among companies and service areas. Within service areas where rates vary, consumers can choose which company they prefer to deal with taking into account rate variations. The crux of Joint Board action on ensuring universal service at affordable rates is to ensure that the rates, objectively, are as reasonably low as possible for the highest bandwidth service that a consumer will need and use. This is different than focusing simply on the rates for current POTS service.

Thus, continuing a paradigm whereby advanced services to schools, libraries or health care providers are provided only through special lines, e.g. T-1, DS-3 etc., will not assure that these services are, on a forward looking basis, as affordable as possible. Rather, the most affordable distribution of high bandwidth is for the network infrastructure to have that capability as the "standard" or "basic" distribution technology, where costs are shared among a much larger subscriber base and are not dependent on negotiations or private pricing deals with specific users. APT believes that a rate is not affordable unless it is the lowest rate that would be possible if the least cost transmission mode were used for that bandwidth. Proper pricing for these services should encourage high bandwidth deployment within the local loop, with cost to consumers based on the amount of bandwidth actually used.

The Commission's affordability definition should embody this principle of the least cost transmission mode to users for bandwidth offered.

QUESTION 2: To what extent should non-rate factors, such as subscribership level, telephone expenditures as a percentage of income, cost of living, or local calling area size be considered in determining the affordability and reasonable comparability of rates?

APT does not believe that any of the specified non-rate factors are relevant in assessing comparability. The intent of the statute in mandating comparability is to make sure that consumers do not suffer deprivations of service by reason of the accident of where they live. Since urban areas are not apt to be of comparable size or have comparable subscriber levels, these factors cannot influence comparability without compromising the goal of comparability. Moreover, subjective factors such as individual telephone expenditures as a percentage of income or cost of living relate essentially to consumer choice factors on income expenditures rather than to the issue of whether the rate is as low as possible and in line with rates in other areas.

Congress clearly intended that rates in rural areas must be as comparably low as in urban areas without taking into account factors unique to rural areas such as distance and population density. Thus, the urban area to which the rural rate must be comparable must be that urban area nearest to or contiguous with the rural area in question. This will incent carriers towards averaging their rates to both types of areas which is what Congress clearly had in mind.

QUESTION 4: What are the effects on competition if a carrier is denied universal service support because it is technically infeasible for that carrier to provide one or more of the core services?

The question assumes that universal service will be defined in terms of specific services. This appears to APT to be unworkable for the reasons stated in its original Comments, unless alternative criteria are also included which relate to network functionality

All carriers will provide some bandwidth which will be used by institutions to offer some types of health care, education and library services. Since Congress clearly envisaged ultimate universal service for advanced services for institutional and consumer users, the FCC and the Joint Board can create powerful competitive incentives to carriers to migrate expeditiously to full service networks by conditioning universal service support on the degree to which carriers offer a wide range of network functionalities, from maximum bandwidth capabilities earning 100% of universal service support, for two way switched broadband and lesser percentages for lesser band width capabilities down to voice grade at the opposite end of the spectrum . Conditioning universal service support to network functionality will have maximum impact on enhancing competition and ensuring that competition focuses on real competitive elements and does not simply deteriorate into competitive rivalry reflected in advertising and marketing hypes. Carriers will be free to offer whatever bandwidth network they choose. But different levels of universal service support will be available for the different levels of bandwidth offered by carriers. This will be completely competitively neutral, but at the same time, will be a competitive incentive to increase the amount of bandwidth offered in order to get maximum universal service support.

QUESTION 6: Should the services or functionalities eligible for discounts be specifically limited and identified, or should the discount apply to all available services?

Here again, the need for the question arises only if universal service is defined solely in terms of specific services rather than in terms of bandwidth capability. As APT pointed out in its Comments (April 12, 1996 @ P. 10-12), "core services" in the telecommunications mixed media world ignores the needs of consumers (whether institutions or individuals). Schools, libraries, health care providers all will have different needs which cannot be anticipated by a definition of universal service in terms of specific services, core or otherwise. These institutions need to have access to different levels of bandwidth to accommodate services they want to provide given whatever their particular individual circumstances are. The same is true ultimately for consumer users. Universal service in the new telecommunications world needs to be defined in terms of bandwidth network functionalities, not specific services, so that whatever discounts are decided upon can be applied to the rates set for these different bandwidth capabilities. These discounts will be fixed and will not vary by bandwidth. Thus users will be totally free to select the bandwidth they need knowing that the discount will be the same whichever bandwidth level they choose at any given time.

QUESTION 8: To what extent should the provisions of Sections 706 and 708 be considered by the Joint Board and be relied upon to provide advanced services to schools, libraries, and health care providers?

Section 706 is crucial to the development of sound regulatory policies that promote the earliest availability of advanced telecommunications service to schools, libraries, health care

providers and, indeed, to all Americans in all regions of the country:

- Section 706 sets out the proper goal of policies to implement the Telecommunications Act through its delineation of what constitutes advanced telecommunications services, describing these as "without regard to any transmission media or technology, as high-speed, switched broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics and video transmission using any technology.

- Section 706 ("advanced telecommunications capability to all Americans" in conjunction with Section 254 (c)(3) ("special services" for schools, libraries and health care providers), 254 (h)(2) ("advanced services" for these entities), and 254(b)(2) "in all regions of the nation") mandates the Commission and the States which the Joint Board represents with taking action now so as to foster the earliest possible provision of advanced telecommunications services to the above entities.

- Section 706 directs the Commission to carry out this mandate "utilizing, in a manner consistent with the public interest... price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulatory methods that remove barriers to infrastructure investment."

In view of these provisions of Section 706, it is clear that the Joint Board must take into account and rely upon these provisions in its universal service deliberations since the Act makes clear Congressional intention that universal service concepts are to apply to all

telecommunications services, standard and advanced. A clear migratory path for network evolution will be impeded unless Section 706 is taken into account now for developing universal service rules.

APT stresses that the true and full solution to promoting universal service in both traditional voice grade and advanced services must take into account the need ultimately to reach the home as the only true meaningful way to promote universal service in advanced services "to all Americans." (Section 254 (b)(2), 706).

The concept of universal service must evolve as quickly as possible to include advanced telecommunications service with great benefits to the quality of life for all Americans. Therefore, the Joint Board must use every opportunity to set that evolution and migration path in motion. Targeting universal service now to its ultimate goal -the home- is an essential first step. Without it, promoting services to the schools or to health care providers accomplishes only half the job which Congress intended by targeting these institutional users for special attention. The need for these educational and health care services to reach the students and patients in their homes is detailed in Attachment A and in Jones, Electronic House Calls: 21st Century Options (1996).

We urge again the need to promptly initiate a proceeding to implement Section 706. APT is eager to cooperate with the Commission in any way that it can be helpful in promoting the objectives of Section 706. The Act, in 706(b), does require the Commission to institute a proceeding within 30 months after enactment, to consider the availability of advanced

telecommunications capability to all Americans (and to conclude the proceeding within six months). If the need is shown, the FCC is to take immediate action to accelerate deployment by removing barriers to investment and promoting competition. But, as we have stated, it would be folly for the Commission to wait three years, and then say that it should have acted sooner. The Commission should act now, and then be in position at the century's end to determine whether and what further actions are needed.

The Act wisely provides that its goal – advanced telecommunications service to all Americans, with enormous benefits to the quality of life in education, health care, democratic process, work, energy conservation, etc., is not a matter to be left solely to the workings of the marketplace. There is and must be an important role for governmental policy, especially along the lines of Section 706. The Commission and the Joint Board should therefore move to implement the strategies set out in Section 706 as fully and expeditiously as possible.

QUESTION 9: <u>How can universal support for schools, libraries, and health care providers be structured to promote competition?</u>

As laid out in its answer to Question 4, APT believes that by structuring universal service support to varying bandwidth capabilities with maximum support available for maximum bandwidth, competition will be best promoted. The goal is to promote effective competition. The statute has already laid out that facilities-based competition is the most desirable competitive mechanism. Facilities-based competition will promote competition

where it is most needed and where Congress decided it should be focused- -on network capabilities. If a carrier only seeks to compete through interconnection, it is not offering consumers maximum consumer choice. Only where it seeks to compete by offering consumers a choice among network capabilities and quality is it offering maximum consumer choice which is the goal of competition. Thus, universal service rules must be structured so as to promote incentives to facilities-based competition.

What needs to be recognized in advancing facilities-based competition is that bringing broadband into the home need not involve a multiplicity of competitive companies digging up streets and front yards. When you get the interconnection costs right, the parties will decide whether to deploy separate networks or to interconnect. In the second place, the pricing of unbundled network services needs to be set so that the parties to an interconnection agreement have effective incentives to fund the most cost-effective way of bringing broadband into the home without wasteful duplication of facilities.

QUESTIONS 26-27: Modifications to the high cost support mechanism.

APT supports continuation of the high cost fund in some form regardless of nomenclature. The high cost fund has always existed in order to ensure equitable network deployment on a non discriminatory basis regardless of whether the area was difficult or costly to reach. It has been the major tool to achieve universal service by ensuring network deployment without which no services can be transmitted. Whatever modifications are deemed

necessary, the fund must not in any way impede this critical advanced network deployment universal service role which is specifically mandated by the Telecommunications Act.

Q 29-30. How to treat price-cap companies.

The importance in the regulatory scheme for price cap mechanisms necessitates that the Joint Board must not take any action which would create reverse incentives or discourage carriers from offering price caps. This must be the principle guiding the Joint Board in the answers which it develops to the questions raised in Questions 29 and 30.

Section 706 specifically refers to using price cap regulation as one tool to promote the competition which Congress regards as a critical key to achieving universal service and spurring the deployment of advanced telecommunications to schools, health care providers, libraries and all Americans. There have been past proposals along these lines. Thus, in the Price Cap Performance Review For Local Exchange Carriers (LECs), CC Docket 94-1, the Computer and Communications Industry Association (CCIA) proposed that the productivity offset in the price cap (designed to limit price increases by incorporating the efficiencies the LECs have traditionally achieved into their price changes) to be set at two levels: one level

based on traditional productivity for LECs in general and a lower level for those LECs that agreed to invest in education. An alliance of education and library groups advanced the proposal that the consumer productivity dividend (CPD) in the price cap formula (one-half of one percent of the access revenues or as much as $300 million a year) be used to connect schools and libraries to the National Infrastructure (NII) starting with the most needy.

Clearly, the productivity factor in price cap regulation recognizes that the productivity dividend from upgrading networks is imbued with a public quality which requires cost-effective use of the dividend to bring broadband capacity into the home and to all people. increasingly, state regulatory bodies are viewing the productivity dividend as a critically important source of investment funds for developing and deploying advanced telecommunications technologies. To achieve the goals of Section 706 through price cap regulation, both the FCC and states should utilize the Joint Board universal service processes to require or provide incentives to ensure that the dividend be invested to facilitate the deployment of community-based applications of advanced technologies to encourage competition that brings broadband capacity into the home. This is critical to achieve the objectives of targeting education, health care, libraries and the disabled for early applications of the advanced technologies. The Joint Board should address market-compatible ways of using the productivity dividend as a funding source of applications development that targets the priorities of communities and groups "at risk" of being bypassed or under-served in the normal operation of markets. In this respect, the mandate for state action must be clear that

community based applications development requires the aggregation of demand for community -based applications that cuts across institutional domains. The Snowe-Rockefeller amendments should not become the vehicle for competitive providers to ignore the commonality of community applications of the new technologies, and thereby entrench institutional domains.

Given the importance of price caps in the Congressional scheme and its endorsement by important telecommunications players, price cap companies should be encouraged by the Joint Board 's universal service rules.

QUESTION 50; How should a bidding system be structured in order to provide incentives for carriers to compete to submit the low bid for universal service support?

APT sees competitive bidding as an essential tool in the hands of the Joint Board to advance Congressional goals of moving towards advanced service networks. APT strongly urges the Joint Board to consider utilizing the competitive bidding process in order to advance development of advanced networks so that education, health care and library users have a full range of services which they can offer to their students/patients and users unrestricted by network limitations. A part of the specifications for competitive bidders should embrace bidders' forward plans to deploy advanced networks-those with the most timely plans earning higher eligibility points in addition to the lowest bid. These would be the most effective incentives available to ensure implementation of the Congressional mandate to move as expeditiously as possible towards the deployment of advanced networks.

Q 51 and 53. Safeguards to avoid collusion in competitive bidding.

APT strongly supports the application of the provisions of the antitrust laws to both these situations. Together with treble damage rights, these laws are fully adequate without impeding competition in any way to ensure that competitors are not driven out of the process and that collusion is not employed in making a competitive bid.

Respectfully submitted,

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Goal:

To Equalize Educational Opportunities

Means:

A Networked Community vs. A Collection of Wired Schools

To Achieve Educational Benefits from the NII It Takes a Village, Not a Task Force or Wired School

Does anyone really know if schools and classrooms will be any different or better off when they are connected to a national or global electronic information infrastructure? Surely, most educators have had their fill of rhetoric and hype about the imminent educational benefits of a National Information Superhighway (NII). The fact is no one really knows what impact wired schools and classrooms will have on the performance of students. In general, research findings in this area are mixed and out-paced by technological advancements. Educators have found that telephone voice mail and school uses of cable television help "break down the psychological and geographical barriers between households and schools." Hard data on the educational effects of schools linked to high-capacity networks may not be available, as yet, but most teachers and school administrators understand the need to make wider use of computers and modems. Parents and school board officials are much slower in recognizing that in order to improve and equalize educational benefits, an NII networked household makes more sense than a NII networked classroom. "KickStart: Connecting America's Communities to the Information Superhighway", the latest among dozens of reports extolling the virtues of advanced electronic networks, was issued last month by the Clinton Administration's NII Advisory Council.

While a very good report, its impact on national policy and federal program planning is expected to be minimal. Two reasons: budget agreements will extract around $600 billion from federal discretionary expenditures over the next fiscal year; and a widening of public acceptance of privatization. Both developments will limit the federal government's capacity to support and extend public services. Anyone who listened to the President's State-of-the Union Address will not expect to see an exuberant federal government any time soon. The Clinton Administration's actions to create a distinguished NII task force and plans to promote telecommunications to improve education, while noteworthy, are not among the domestic initiatives which the U.S. Congress is willing to endorse and support. At this juncture, it's only a matter of deciding whether the Administration's initiative to exploit the potentials of advanced telecommunications to change and improve education may have been squandered or derailed. If there's a window-of-opportunity in this realm, it's no longer a federal opportunity.

Classrooms and the Internet

Arthur Sheekey,
President,
Public Service
Telecommunications Corp.

"It's possible that universal availability to high-capacity or advanced networks will create more problems than opportunities for schools, parents, and teachers. The prospect that every household television set and personal computer will have dial access to every Blockbuster movie and virtual shopping mall in the country is unlikely to increase grade point averages or life-long learning opportunities."

Alliances among large corporations, including telephone, cable television, publishing houses and entertainment industries, will see to it that resources are made available to upgrade the nation's telecommunications infrastructure — the profit motive provides a sufficient incentive. Deregulation is expected to spur competition. Regulatory requirements, however, will ensure the universal availability of networks. Provisions in recent federal legislation and in state laws will guarantee access to all locations, even to high-cost rural areas and urban neighborhoods. But, there will be no federal or state laws or regulations to ensure services, such as dial-up access to local schools, libraries, and governmental agencies. These services, or public benefits, will only come about as a result of public demands.

It's possible that universal availability to high-capacity or advanced networks will create more problems than opportunities for schools, parents and teachers. The prospect that every household television set and personal computer will have dial access to every Blockbuster movie and virtual shopping mall in the country is unlikely to increase grade point averages or lifelong-learning opportunities. Surely, the difficulties of curbing children from excessive TV viewership in the late years of the 20th century will pale in comparison to the problems all parents and teachers in the upcoming century are about to face.

In the past, education and public interest groups have been successful in demanding certain programs from broadcast licensees and cable operators because these companies were required by law to serve the public interest. Federal, state and local jurisdictions maintained considerable authority and leverage over program services. Controlling the flow and direction over information in a digital medium that has no boundaries will be more challenging, if possible at all.

Local communities concerned about the likely consequences of an unbridled telecommunications industry can take steps to ensure that the benefit of digital networks counteracts or at least equals the bleak consequences of privatization and commercialization. Unquestionably, merely wiring all the schools and classrooms in the district is an inadequate solution. Public schools and libraries must have access to advanced telecommunications technologies. Any financial scheme that will help schools access electronic resources should be encouraged. We know there are multiple and affordable ways to build "electronic bridges," such as wired or wireless services offered by local cable operators or telephone service providers. There's much less certainty that any scheme designed to guarantee virtual access to "global information resources" will lead to improvements in teaching or learning. A local community or school district official considering further investments in educational technologies should reflect on two known facts about helping children: improving communication between parents and schools invariably makes a difference; and, giving par-

Point of View

Goal:
Equalize Educational Opportunity

Means:
Electronically Linking the School and Home

Could the NII Equalize Educational Opportunities in Households as Well as Schools?

A presidentially appointed Advisory Council will soon publicly endorse the Administration's blueprint for building a National Information Infrastructure, or NII. This private-sector body is also expected to extol the benefits of an NII – by making better and more current information available to all of the nation's students no matter what their socioeconomic or ethnic background is or where they live. Wiring the nation's schools and classrooms is a worthwhile national goal. Public support for building electronic bridges between schools and the NII is warranted and should be encouraged further. NII's education advocates, however, should be more forthcoming. The facts, including recent survey findings, indicate that household access, not just school access, to the NII could have a far greater impact on education. The distinction is critical. If the nation is really interested in equalizing educational opportunities, it needs to broaden its goals for the NII. School access to the NII will make a difference: household access to the NII will make a greater difference.

At all levels of government, taxpayers are being urged to underwrite the investments needed to purchase additional computers, modems and local area networks in order to ensure our schools get quick access to "global information services." The ratification for additional public funds to stimulate the development of NII educational services has come not only from the White House, but from most national educational associations located in and around Washington. Their endorsement of the NII and its promises have been impassioned and unfailing. Additionally, in most communities around the nation, one could effortlessly find a local activist who outspokenly aspires "to build the NII from the bottom up." A local spokesperson for the NII is either a perennial zealot for or self-baptized convert to the benefits of technology. Characteristically, it's a male teacher or administrator who has been transmuted into a sort of virtual music man, i.e., "folks, unless we wire our schools, we've got trouble — real trouble."

Beyond the prevailing rhetoric, either for or against increased public investment in the NII, there's actually substantial evidence about what the NII could or could not do for education. Unfortunately, the most important social and education: issues associated with developments in telecommunications are either postponed for future debates or down played as unimportant. Too many of the present NII proponents, for example, are yet to address a large number of unsettling and unresolved issues concerning both the promises and perils of an NII. To questions relating to whether schools should be given more money to purchase networked technologies, there should be few skeptics. It's obvious to most that schools should not be bypassed by the information superhighways.

For policymakers, the important question is not why but how public funds should be spent to ensure that all students and families (regardless of socioeconomic and ethnic backgrounds) benefit from advanced telecommunications services. As we procede in this national Apollo Project-like venture, we must recognize that too many public officials may be listening to a "music man" (in this domain, a "music woman" is rare). With only faint opposition (a few luddites and techno-skeptics still exist), huge public funds will go toward linking the NII to the nation's schools. Even the ceaseless misgivings that far too many teachers and schools are neither ready nor willing to integrate modern interactivity into their programs have subsided.

Spokespersons for educational technology have made their NII promises crystal clear. Demonstrations and field tests do in fact support the optimism that the installation of telecommunications technologies can stimulate school reform. The next stage for fuller deployment presents a number of obvious and practical problems. These include the following: (1) the diffusion of technology-based programs and services will be slower than the advocates recommend — but that may be a blessing in disguise; (2) not all schools and teachers are ready to change their ways; (3) the effects of different approaches used to educate young children can be irrevocable; (4) multiple learning styles will require multiple approaches, some of which need to be very personal; (5) the ultimate consequences of expanded online learning are actually quite murky; and (6) lest we forget, previous and ambitious plans to introduce new and innovative programs and approaches into our schools have had little or no positive effects on students — parents could become quickly dubious of "global classroom learning" if standardized test scores don't go up.

At a time when the majority of the public seems opposed to governmental actions and growing expenditures, it's surprising that spending concerns don't dominate this debate. No major public interest group or organization is raising some appropriate questions, such as: "will the $20-$40 billion investment needed to wire the nation's 100,000 schools really make that much of a difference?; can technologies be introduced into schools without heavy and continual investments in training and support services?; are there any assurances that investments in educational technologies will improve good and bad schools alike?; will there be gains in the productivity and efficiency of schools?; or, who will take the responsibility to see to it that electronic information services are available and affordable to all families as well as to all schools?"

It's rather ironic that the public seems so committed to connecting schools and classrooms to the NII while surveys show the majority of the public is only vaguely aware of what an "information superhighway" actually is (only 7 percent of U.S. citizens use the Internet). As school networking efforts proceed, however, its planners and administrators should not delude the public into thinking that the $20-$40 billion investment is a "solution" or panacea to the problem of most schools. The most successful schools, those with or without linkages to the

Point of View

Arthur D. Sheekey

"It's rather ironic that the public seems so committed to connecting schools and classrooms to the NII while surveys show the majority of the public is only vaguely aware of what an "information superhighway" actually is (only 7 percent of U.S. citizens use the Internet)."

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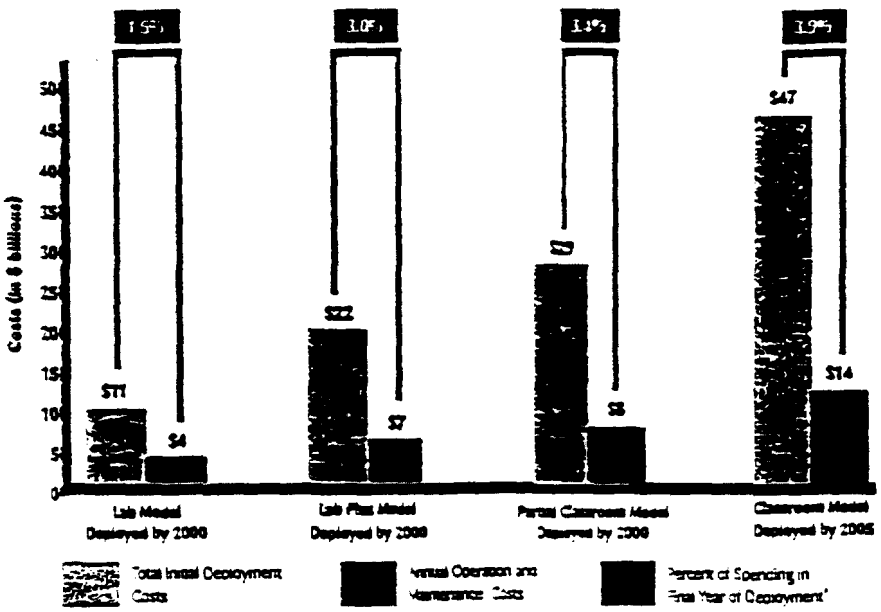
Figure 2. Estimated Cost of Deploying and Operating Infrastructure in Public K-12 Schools with the Four Models



*Reflects the Department of Education's forecast of an average increase in the education budget of 2.5 percent per year (including inflation) through the year 2005.

Source: McKinsey & Company.

Figure 3. Cost Components for Deploying, Operating, and Maintaining Classroom and Lab Models in Public K-12 Schools

	Initial Deployment Costs		Annual Operation and Maintenance Costs	
	Classroom Model	Lab Model	Classroom Model	Lab Model
Hardware	51%	34%	14%	17%
Professional Development	14	19	41	31
Content	14	20	21	26
Connection within School	13	12	4	5
Connection to School	4	7	7	15
Systems Operation	4	8	13	6
	100%	100%	100%	100%
Total Cost (in $ billions)	$47	$71	$14	$4

Source: McKinsey & Company.

Figure 4. Cost Components for Deploying, Operating, and Maintaining Online Services in Libraries

	Initial Deployment Costs	Ongoing Costs
Application Hardware	24%	12%
Application Software	8	3
Training and Support	27	32
Content/Resource Development	–	23
Connection within Library	17	3
Connection to Library	4	9
System Integration and Support	20	18
	100%	100%
Total Cost (in $ billions)	$1.6	$1.3

Source: NIAC Analysis, Department of Commerce.

ents additional resources to help educate their own children can complement the work of schools. Let's also not ignore recent research. Surveys indicate the inequalities among U.S. households far exceeds the inequalities among schools. Current studies also show advanced networks and services can be used to engage families in school activities while offering other needed family services. Thus, it would seem that a networked community rather than a collection of wired schools offers far greater promise for equalizing educational opportunities.

Local service providers, the cable operator, local exchange carrier (LEC), and a host of new competitors will be more than ready to negotiate with local officials and stakeholders who stand behind an educational vision for creating a community of learners. No single system or electronic service can be expected to serve the needs of all communities — each community must make choices based on local needs and resources. A critical step is getting locally elected officials, educators and families to collaborate in building local networks and services. Educational benefits are likely to ensue when these stakeholders share the common belief that it takes an electronic village to help raise their children — not just a wired school and classroom.

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"Assessing Telecommunications Technology as a Tool for Urban Community Building," a paper prepared by Teresa Anderson for NTIA at the U.S. Dept. of Commerce, Washington, DC 20230

"Community Networking: Bringing Communities Online," a paper prepared by Patrick Finn and Cyd Strickland, La Plaza Telecommunity Foundation, 115 Civic Plaza Drive, Taos, NM 87571, or pafin@laplaza.taos.nm.us

Connecting K-12 Schools to the Information Highway, McKinsey & Co., Inc., 630 Hansen Way, Palo Alto, CA 94304; ; tel. 213-312-4137; fax 213-622-9399; e-mail: ted_neisel@mckinsey.com

"Linking Up Villages: Small-Scale Computer Networking," The Benton Foundation in Washington, DC: 202-778-1460 or http://cdinet.com/benton

"Telecommunications Policy in the Public Interest: Putting Communities First," Appalachian Center for Economic Networks, 94 Athens Rd., Athens, OH 45701, or jholly@tmn.com

Source: Arthur D. Sheekey, President, Public Service Telecommunications Corp., Two Skyline Place, Ste. 1303, 5203 Leesburg Pike, Falls Church, VA 22041-3406; tel. 703-998-1703, fax 703-998-3480.

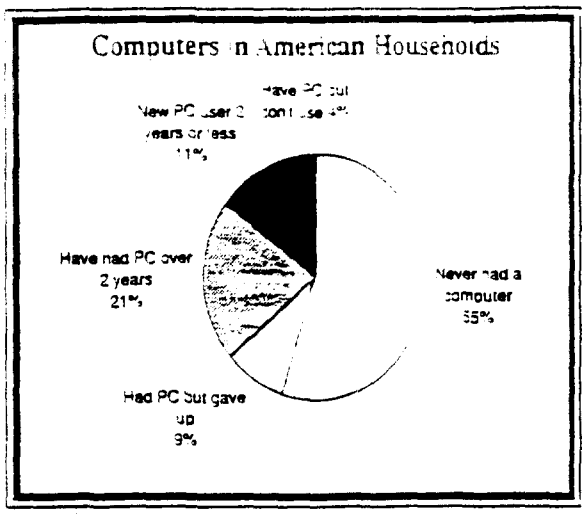
NII, will continue to work in tandem with parents, community organizations and prospective employers. Schools not communicating directly to parents or tuned to the needs of area households will never be successful.

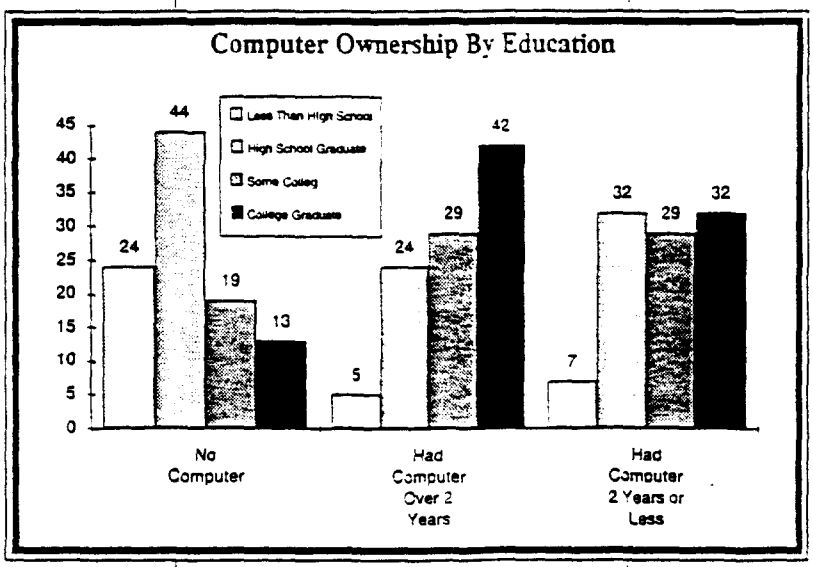
Visions for the NII and its contributions to schools need to be expanded to include households. As the nation enters a new century, equalizing the resources among the nation's schools must continue to be a national goal. Reducing what Jonathan Kozol describes as "savage inequalities" in schools should be no less than a moral imperative. The confluence of education and telecommunications issues captured in the present public policy arena requires goals and actions. It would be a pity if discussions for equalizing educational services are limited to all our school buildings and classrooms, and not to all our families and households. To do otherwise would be a tragic mistake and missed opportunity.

A step in the right direction would be to confront the delusions perpetuated by the NII's move vocal proponent, possibly, by your local "music man." Advocates must admit that the total amount of money parents and families will spend on supplemental educational services for their children will have a far greater impact on learning opportunities than the total amount schools spend for such equipment and services. Recent Census reports and several household marketing surveys indicate that college-educated parents with good incomes are spending a lot of their discretionary resources on computers, modems and online services. More than one-third of U.S. households now have PCs, compared to about 7 percent for poor families. Headlines say: "Americans are Going Online," but subsequent details reveal that it's the college-educated and affluent families who are able to reap the full benefits of networked information services. Of households with incomes of $50,000 and over have computers, well over one-half have PCs. Income and education correlate most strongly with the presence and use of a household computer, and the correlation between high incomes and high quality online services is expected to continue.

By the year 2000, or soon after, nearly all of the nation's schools [illegible] NII. [illegible] service. Undoubtedly [illegible] students will get additional [illegible] benefits from wired classrooms. However, unless the structure of schools is radically altered, such as, extending the typical school year and day, the impact of telecommunications on educational achievement levels could be negligible. School-age children who continue to spend less than ten percent of their time in classrooms and fifteen percent of their time viewing television over the course of a calendar year cannot be expected to become high-achievers. The typical "home-alone kid" now spends four hours a day before his or her 12-channel TV. In a decade, a child of comparable circumstances will get a lot more entertainment program service from his or her 400-channel or "dial-accessed" TV set. More than likely, poor and rich households will have interactive TVs, but children of the latter will also have their dedicated "workstations" and access to commercialized online educational and informational services.

So, how do we ensure the educational [illegible] benefits of the emerging NII [illegible] the public has to be made aware of the fact that the nation's households as well as its schools must reap the benefits of advanced telecommunications services. Over the next year, as new telecommunications laws are implemented, it will be critical to sustain and couple the debates on telecommunications and education policy. Investments to upgrade the quality of our information highways and educational services for all Americans must be carried out in tandem. The huge public investment associated with linking the nation's schools to the growing web of wired and wireless information networks deserves greater public scrutiny at all levels of government. Wired schools and classrooms can facilitate learning and extend the influence of teachers and school officials — there's ample research and experience to support this position. More importantly, there's strong evidence to suggest the disparities of educational resources among U.S. schools are being reduced while the disparities of household information services, e.g., having or not having workstations and expensive online services, are widening.





Too many of us have been induced into thinking that the NII will contribute substantially to the national goal of equalizing educational opportunities. It will, but if the NII educational services are limited to schools and classrooms the overall impact will be minimal, not consequential. Bill Gates understands this. In his new book, *The Road Ahead*, Gates writes: "Great Educators have always known that learning is not something you can do only in classrooms, or under the supervision of teachers."

Individuals and groups involved in education policymaking at all levels of government should get their favorite telecommunication music man or NII advocate to lead a new parade of partisans: partisans who will demand to see policy and regulatory choices that ensure equal and affordable NII services to entire communities — including schools, libraries, and individual households.

Source: Arthur D. Sheekey

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Federal-State Joint Board on	)	CC Docket No. 96-45
Universal Service	)	
	)	

REPLY COMMENTS
ALLIANCE FOR PUBLIC TECHNOLOGY

RECEIVED
May 7 '96

The Alliance for Public Technology (APT), a nonprofit, consumer organization with over 100 grasssroots members, organizations and individuals, hereby submits these reply comments in the above referenced proceeding.

APT focused its comments on urging the Commission and the Joint Board to adopt a universal service system designed primarily to promote the more rapid deployment of advanced telecommunication services to all consumers. We urged the Commission to consider Section 706 and to utilize the tools authorized in that section, including price caps and other regulatory mechanisms. In particular, APT focused its comments on asking the Commission and the Joint Board to adopt as a goal the universal deployment, without regard to any particular technology, of a broadband, high capacity, switched system capable of supporting voice, data and graphics into and out of every home in America.

- Many state departments indicated that their states already had legislation which recognized the importance of advanced service network capabilities in the development of their telecommunications policy. Iowa urged that its statewide fiber network should be eligible for universal service funds.

- Acknowledging the importance of flexibility in the definition of universal service levels to be eligible for universal service support, the Washington Utilities and Transportation Commission urged that in order to promote universal service it is necessary to design a functional description of universal service. They proposed using the availability of and access to network capabilities rather than referring to specific services so as not to freeze universal service in the technologies and services of 1996.

- Some education and library commentors urged that in phasing in advanced services, the FCC should move towards networks capable of supporting 1.5 and ultimately 4.5 MBPS in linking the network to schools, libraries and health care providers. (Michigan Library Association, Oakland Unified School District; Access To Communications For Education, US Distance Learning Association, Illinois State Board of Education). APT's experience with the important applications of these networks leads it to support framing the goal of moving towards advanced networks using these suggested MBPS levels.

in their filing also argued not to limit universal service to high cost areas and low income citizens but to apply the concept to all citizens.

- Indeed several commentors addressed this point in dealing with the market place criterion laid down in Section 254 (b) (1) in defining how to determine the services to be included within universal service support mechanisms. They felt that these criteria should be treated as independent alternative criteria since several services may be essential but not yet subscribed to by a majority of consumers. (Association of the Bar of the City of New York Administrative Law Committee, Access to Communications For Education, New York State Consumers Board,)

- The Oklahoma corporation counsel also urged FCC to design its rules on universal service to encourage the rapid development of advanced telecommunication services to all areas of the country. The California Department of Consumer Affairs echoed this approach and argued that the most efficient action the FCC can take to assist in the availability and deployment of advanced telecommunications information services to libraries, schools and healthcare providers is to provide incentives for the telecommunications market to deploy a fiber optic broadband network platform.