
Public Hearing

before

SENATE SPECIAL STUDY COMMITTEE ON THE FEDERAL TELECOMMUNICATIONS ACT OF 1996

*“The State’s ability to take advantage of the provisions of the
Telecommunications Act concerning education (including libraries)”*

LOCATION: Committee Room 1
State House Annex
Trenton, New Jersey

DATE: July 18, 1996
10:00 a.m.

MEMBERS OF COMMITTEE PRESENT:

Senator Andrew R. Ciesla, Chairman
Senator Joseph L. Bubba
Senator William L. Gormley
Senator Byron M. Baer

ALSO PRESENT:

Amy E. Melick
Office of Legislative Services
Aide, Senate Special Study Committee on
the Federal Telecommunications Act of 1996



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SENATOR ANDREW R. CIESLA (Chairman): Good morning, ladies and gentlemen. I would like to welcome you today to the second meeting of the Telecommunications Committee. Our focus today is going to be on the role of telecommunications and how they interface with the educational needs of not only the State of New Jersey, but probably the greater regional areas.

As we all know, the Federal Telecommunications Act requires that we make available -- we as a telecommunications community -- universal access to the educational community at a discounted rate. That discounted rate, obviously, is not specified. However, in New Jersey, we face some very significant problems and we have certain significant advantages: being a State that is so dense, and being a State that has an infrastructure and the ability to essentially connect itself through its infrastructure very handily.

I believe we have the ability to change the way in which learning will transpire in the world starting here in New Jersey. It is a very significant opportunity. It is one that behooves the educational community, regulators, and the telecommunications community to coordinate now to find what is needed, to try to quantify what that cost is, to find a way of funding it, while we all maintain our competitive stature so that we are not chasing those people who are ultimately responsible for paying the costs of establishing those facilities out of the State of New Jersey. We want to encourage them to come to this State.

So at this early stage, this formative stage, we need to begin to answer some very, very significant questions. Those significant questions are:

- 1) What is needed?

- 2) How can that be accomplished?
- 3) How can that be accommodated?
- 4) Who can provide that?
- 5) How should it be best provided?
- 6) How does it not become an economic disincentive for those businesses and users of those particular lines?

So we have some important tasks ahead of us. They are very, very complex tasks. The technology, obviously, is emerging so fast that when we define how we can do it, it will probably be a stale method of doing it already. Nevertheless, it behooves us to begin that process.

Today basically will be an orientation for all of us so that we can have an understanding of what is required with respect to what will be needed in the State of New Jersey for learning -- distance learning, telecommunications, and how it will coordinate with the education community.

I believe we have a group of people who have signed up to testify. The first individual I would like to bring forward before the Committee -- and I will ask them if they have any comments prior to bringing her up -- will be Blossom Peretz, who is the State Ratepayer Advocate, and is also the Chairperson of the Cable Telecommunications Task Force Education Subcommittee.

Blossom, welcome. Prior to beginning your testimony, I would like to ask Senator Bubba and Senator Gormley if they have any opening comments.

SENATOR BUBBA: Well, I did not prepare any opening comments, but I think, Mr. Chairman, that your lead is well taken, that your comments based on what this telecommunications community can do to assist education is on target. I might be able to help because, as I just mentioned to Senator Gormley, I spent quite some time with Bell Atlantic, and I initiated the system in Bergen County, where they have distance learning. So, maybe with the help of some people in this room, we can expand that network throughout the State of New Jersey.

SENATOR GORMLEY: Just as Joe is bringing his background and expertise, I want to bring the same level of sensitivity that I just brought to the tunnel negotiations in Atlantic City, so we can work with AT&T and Bell and see what we can produce for education in terms of actual dollar value that would offset property tax costs. That is my focus.

Thank you.

SENATOR CIESLA: Thank you, Senator Bubba. Thank you, Senator Gormley.

Blossom, thank you for attending. We look forward to your comments.

BLOSSOM A. PERETZ, ESQ.: Thank you.

Chairman Ciesla, Senator Bubba, Senator Gormley, I am pleased to be here before you today to present our office's views of the Federal Telecommunications Act of 1996 and, in particular, the provisions of the Act that present inviting opportunities for enrichment of the educational experience provided by New Jersey's schools and libraries. The new Federal legislation, as you know, requires telecommunications companies to provide

special, discounted rates to all not-for-profit elementary and secondary schools and libraries for certain telecommunications services.

My message today is quite simple: We here in New Jersey cannot afford any delay in making advanced telecommunications services, such as Internet access, available to all our schools and libraries. First, we must define the discounts that will make access to the Internet affordable for all schools and libraries. Second, we must implement a universal service fund to support the discount tariffs. And, third, we must craft a means to provide the infrastructure to wire our schools and libraries so that they can access these new telecommunications services.

I bring you a quote from Plato which succinctly captures the point: "The direction in which education starts a man will determine his future life." I would modify that quote changing "man" to "person," but aside from Plato's gender insensitivity, the remarkable fact is that it is as true in today's world of cyberspace and outer space, as it was in the ancient times of Greece.

Before getting into the provisions of the Federal Act, let me provide the Committee with a little bit of background about my office, which I am sure that you do know about. The Division of the Ratepayer Advocate was created in 1994 by Governor Christine Todd Whitman to represent and protect the interests of all classes of utility customers in the State of New Jersey, including residential, small business, and industrial consumers, in an effort to protect the economic interests of all New Jersey ratepayers. This mix of constituents -- which is quite unique in this country -- reflects the fact that the economic well-being of an entire community is interrelated in the new competitive environment.

As Cochair of both the Education and Universal Service Subcommittees of the Cable TV/Telecommunications Task Force -- Telco Task Force -- organized by the New Jersey Board of Public Utilities, I was pleased that our committees unanimously agreed on the importance of the guarantee of universal local service to all ratepayers. The subcommittees also agreed on the importance of universal access to advanced and emerging telecommunications technologies to all schools and libraries.

It is clear that access to information services, such as the Internet, is increasingly important. It is also an issue of social equity. The availability of advanced communications technology in New Jersey varies widely based upon geography and financial resources of the school districts. In fact, a recent *USA Today* survey indicates that New Jersey ranks 37th and 38th in providing multimedia services and computers to our children, and only 187 of the 314 public and municipal libraries have computerization of any kind, with substantial disparity in its sophistication. Our goal must be to provide electronic access to information networks for every New Jersey library and school. "A computer on every desk" should be the 21st century equivalent of "a chicken in every pot."

The good news is that the Federal Telco Act creates the opportunity to provide all New Jersey students with the access they need to new communications technology. The 1996 Act requires the Federal Communication Commission to redefine "universal service." That determination will be made by the FCC by the end of 1996 on the basis of recommendations received from an ongoing Federal/State Joint Board, which is comprised of both Federal and State regulators. Whatever telco services are

ultimately included within the concept of universal service are to be made available to not-for-profit elementary schools, secondary schools, and libraries at discounted rates.

The Telecommunications Act also provides that the states may adopt their own regulations and provide additional features to advance individualized universal service goals of each state. The states may also adopt specific mechanisms to support the additional universal service obligations, so long as the states do not rely on or burden the Federal Universal Service Fund.

I'm sure that I don't need to remind you that in the past New Jersey has sometimes been slow to take advantage of some Federal programs designed to promote universal telecommunications subscribership. For example, New Jersey has negligible participation in the Federal Link Up America Program, which provides already available Federal funds of up to \$30 per low-income household for phone connection. Moreover, New Jersey does not, at this time, participate in the federally financed Lifeline Program, which helps to ensure that low-income customers can continue to receive telephone service.

Our office is very clear and very outspoken on this issue, that we must not let the opportunity and promise of the new Telco Act pass us by. I know that this Committee is concerned as well. For our part, we will urge the BPU to approve discounted rates under new tariffs for schools and libraries as expeditiously as possible during the upcoming BPU hearings on local competition that begin next month. These discounts can be credited by the telecommunications carrier against its obligation to the Universal Service Fund. We will also call for schools and libraries to be eligible for discounted rates for

ISDN services. ISDN refers to the Integrated Services Digital Network, a service that turns an ordinary copper telephone line into a digital data port that provides simultaneous voice and data access to the Internet and information services at significantly faster speeds than are available through state-of-the-art analog modems. It is sobering to recognize that Louisiana has had discounted tariff rates for schools and libraries since 1994. If New Jersey wants to maintain its status as the telecommunications mecca, it must take affirmative action today and make firm commitments for affordable, advanced technologies to its libraries and schools.

The question, of course, is how to implement the discount to be provided for universal service support for schools and libraries. In our comments to the FCC, the Ratepayer Advocate supported a Universal Telecommunications Service Fund, where all telecommunications providers operating in the State would be required to contribute to a fund to be used for the provisioning of advanced telecommunications services for educational purposes. This would include any carrier that provides telecommunications services, including the cable companies when they enter the field of telecommunications. Texas has already implemented a Telecommunications Trust Fund, which allocates \$150 million each year for 10 years. The funds are provided by the state's telecommunications utilities and mobile service providers, and are used for educational technology and communications.

SENATOR GORMLEY: Good. We have a base to go from then. That's very good, it's wonderful. They had not told us about that.

Thank you. Please go ahead.

MS. PERETZ: It should also be possible to develop creative public/private partnerships to fund discounted Internet access for all schools. In New Mexico, for example, U.S. West Communications has installed a \$15 million optical fiber cable, supplemented by funds provided by the state, the U.S. Department of Energy, and the National Science Foundation, thus providing schools with data, voice, and video capabilities.

In other words, there is room for creativity, resourcefulness, and flexibility to develop solutions that benefit New Jersey schools, and we welcome exploration of these solutions in conjunction with the BPU and this subcommittee. We recognize that State Senator Bubba has introduced a bill which would establish a fund to provide local school districts with an annual entitlement of \$50 per pupil for training in educational technology.

We recognize that many worthwhile projects are already in place through the efforts of Bell Atlantic-New Jersey, AT&T, New Jersey Network, and most of the cable companies, including Comcast, TKR, and TCI, to provide information technology to our schools. If you are interested in a copy of the Cable/Telco Task Force report on this, it includes all projects in the State of New Jersey that are currently in place by all the carriers in the State, including the cable companies. This will give you an idea of what is in place. I offer this to your Committee. While we are very proud of all of these projects, we are, nevertheless, concerned that these projects are scattered and piecemeal throughout the State. We are looking for a more universal solution.

While the cost to schools and libraries of telecommunications services and equipment is an important issue, it is not the only serious impediment to Internet access. Many of our schools lack basic infrastructure

requirements, such as the electric wiring needed to run computers or phone/data lines needed to access the Internet or other on-line services. Discounted access rates for nonprofit schools and libraries would ameliorate part of the problem; the expense of rewiring schools requires more innovative thinking.

Therefore, we will be working -- and we hope you will be, too -- to support an exciting volunteer effort called Netday New Jersey, which is being coordinated by Partnership for New Jersey to provide 1000 New Jersey schools with the basic electric wiring needed for Internet access during the 1996-1997 academic year. Netday will be an electronic barn raising, bringing together schools, communities, and volunteers in a statewide effort. Volunteers who sign up with Netday New Jersey will wire 200 schools on Saturdays in October, with another 800 schools to be wired in April 1997.

Let's not forget, however, that a bunch of fiber-optic cable connected with computers and computer terminals does not by itself create a superhighway for education. Advanced services require not only big up-front capital costs and networks within the schools and computers or computer terminals, but, as importantly, enthusiastic teachers who have the training to use the equipment and inspire our students. The only way to increase the learning of pupils is to ensure the quality of the teaching. That is why we are pleased that the Department of Education is also joining the subcommittee that has been working on bringing advanced telecommunications to the schools and libraries.

Our office will be pleased to work with your Committee and your staff in making sure that the benefits of exploration in cyberspace become

affordable and available to all New Jersey school children, to all librarians, and to all library patrons throughout the State of New Jersey. Education should no longer be the privilege of the few, it is the basic right of all of our citizens which opens the doors of opportunity. To quote the great American, Mark Twain, "Training is everything. Cauliflower is nothing but cabbage with a college education."

The pursuit of knowledge must remain a dynamic experience which fosters the spirit of exploration, where the questioning, the curious, and the adventurous mind are continually being challenged.

Thank you for this opportunity to address this Committee.

SENATOR CIESLA: Thank you very much, Blossom.

There are a couple of questions which came to mind during your testimony that I would like to explore. The one that struck me at the beginning was the redefinition of universal service by the FCC.

MS. PERETZ: Right.

SENATOR CIESLA: That seems to be of critical importance, because if we are not able to define the elements that go into what should be universally provided, then we will be shortchanged.

Are we doing, or is anyone doing, something, to your knowledge, to help with that definition?

MS. PERETZ: Our office has supplied comments to the FCC on the definition of universal service, which include discounts for schools and libraries. We are following the Federal Joint Board. I would be happy to give you a copy -- I do not have it with me -- of the comments we filed.

SENATOR CIESLA: I would like to get them, because one of the things that strikes me when we talk about distance learning and telecommunications -- and it seemed to punctuate your testimony -- is that there is an emphasis on getting connected to the Internet. While that is important, I am not sure that it should be the central focus, particularly as it applies to education. I think we would be shortchanged if we would focus only on Internet access, as opposed to allowing for some of the other technologies that would provide for other types of telecommunications between classrooms through direct links and the equivalent to T-1 lines and things that allow for videoconferencing now that are currently available.

MS. PERETZ: Right. I agree with that, but that kind of interconnection is more readily available and easier to be funded. So I guess we are going for the ultimate when we talk about everybody being connected to the Internet.

I know there are wonderful programs in place right now -- videoconferencing with Bell Atlantic in Union -- and cable companies have put programs in place. You're right, there are many programs in place. I guess when we talk about the Internet, we talk about exploring space perhaps, or, you know, the dream of everybody right now. But you're right.

SENATOR CIESLA: I just have one last question before Senator Gormley jumps on this as well.

One-hundred and fifty million dollars is presently being dedicated in the State of Texas--

MS. PERETZ: Right.

SENATOR CIESLA: --by the telecommunications providers. How long has that been in place? How long has that Fund been in place? And why would they do it if it was not required pursuant to the Federal Act which was just--

MS. PERETZ: I will find out more information. It was not required pursuant to the Federal Act. What may have happened was, it might have been required pursuant, in some states, to a settlement with a telecommunications carrier in a rate case. Oftentimes, when they settle cases, other commissions have said, "We will give you a rate increase, but you have to give something back to the state." I will find out about it.

SENATOR CIESLA: I would be curious to know about that, because we are going to emphasize the benevolence of the providers here, and I would like to know what the motivation of that was.

MS. PERETZ: There are different motivations in different states with different benevolence. You're right.

SENATOR CIESLA: Okay. Thank you.

Senator Bubba?

SENATOR BUBBA: I would like to know a little bit more about what your view of the Internet is? I think you are talking a little bit beyond just being able to plug in and surf and, you know, learn some interesting facts about a lot of different things.

MS. PERETZ: Okay.

SENATOR BUBBA: In Bergen County--

MS. PERETZ: Correct.

SENATOR BUBBA: --there is a network that connects different schools together. The principle when we installed that-- The principle there was that in Bergen County if there were 6 students that wanted French 7--

MS. PERETZ: Correct.

SENATOR BUBBA: --that there may be 1 student per school in 6 different schools, and how would they ever get a French 7 teacher -- 6 or 7 different schools? So if there were an interactive station -- an interactive classroom -- where this French 7 student could go, and the others, then the teacher could talk to them and instruct them over this network. To my knowledge, it was working beautifully when I left Bell Atlantic. I presume it is still working well.

MS. PERETZ: I just-- I'm sorry.

SENATOR BUBBA: Just let me finish this point. What I envision with the Internet, on a lesser scale-- I mean, I don't know that you can get as interactive as the Bergen County network, but you can draw people together, for lack of another word, in a chat room, and maybe instruction can be handled that way. Maybe that way would be an awful lot cheaper than the Bergen County system.

Now, if that system could be massaged and the Internet idea be worked together, I think it would have the basis for some real good educational value throughout the State.

As a Ratepayer Advocate, one of the principles -- I am afraid I do not have the answer, and maybe our staff aide could get us this answer for our next meeting -- behind whether it be computer networks, whether it be interactive education, or any other technology, is a fiber network. Some time

ago, we voted on a measure here that supplied a large amount of money, or at least we proposed to supply a large amount of money. I don't know how much we ever gave, if we gave any, although I presume we did. Have you followed that? Do you know where we are with that?

MS. PERETZ: Are you talking about Bell Atlantic creating the fiber-optic superhighway for the State of New Jersey?

SENATOR BUBBA: Yes. I have never seen a schedule on that. I don't know how it is going. I don't know where they put fiber in. Do you follow that at all?

MS. PERETZ: We follow it, but there are people here from the Board of Public Utilities whose job it is to follow the fiber-optic network. They get the reports at the Board.

John DeLuca, could you--

J O H N D e L U C A: (speaking from audience) We will be getting a report in August.

SENATOR CIESLA: Excuse me. You are going to have to come to the microphone, because this is being recorded.

Please identify yourself for the record.

MR. DeLUCA: I am John DeLuca. I am Assistant Director of Telecommunications with the Board of Public Utilities.

We get a report in August, so we are waiting on that report to see what developments have gone on with the deployment.

SENATOR BUBBA: If that deployment is on schedule or can be worked a little quicker, we can get to a point, within the State of New Jersey,

that affords us the ability to get a little bit more technically attuned one school district with another.

The other aspect of that is, we gave Bell Atlantic quite an edge by doing this. Now, how do we propose, now that we have a new telecommunications policy that we are going to structure-- How do we now propose to make sure that all of the competitors can get into the business and maybe work with or through or what have you within this network, because you don't want to build two or three networks in the State?

MR. DeLUCA: Right.

SENATOR BUBBA: Maybe you want to share one.

MS. PERETZ: Right.

MR. DeLUCA: I think one of the key pieces of the Federal legislation will deal with that. We have to get to that point. We have to do interconnection. Interconnection will allow competing companies to provide local service and, at the same time, buy the piece parts of the network that they need from Bell Atlantic.

SENATOR BUBBA: I'm sorry, Mr. Chairman.

SENATOR CIESLA: Go right ahead.

SENATOR BUBBA: The other aspect of this is this new discovery through Zenith, where Zenith has a modem that will -- I don't know if it is perfected, I know the stock went up, but then it went down -- a modem that they can hook onto coax that will be so much faster than the modems that are now on the other -- on the networks.

How do we view the coax network versus the fiber network? In other words, if we are assisting Bell Atlantic and the communications

companies with fiber, why shouldn't we do the same thing with coax, if coax is going to sustain itself in the future? Or should we look at the cable companies and say they should go fiber and, you know, meld everything together? I think that is a critical issue, because once we create the network, once we lay the cable, then universal service is a guarantee. Then you can talk about universal service easily.

MS. PERETZ: Well, those were a lot of questions you asked.

The Universal Service Fund is the critical part of it in terms of funding, because all carriers will be responsible to designate certain dollars for the schools and libraries. So that is a very important part of it.

The interconnection is also a very important part of it. Currently, alongside the Federal Telecommunications Act and the committees there that are working on putting in place the rules and regulations which will be coming out this fall, the Board of Public Utilities, at this time, has an ongoing docket opening up local competition, and part of that docket includes interconnection and interconnection fees. So AT&T will be able to use the Bell Atlantic network. That is all happening right now.

We want to make sure that as this--

SENATOR BUBBA: What about the cable companies?

MS. PERETZ: The cable companies are also part of that docket.

What we want to make sure of is that as the FCC and as the Board of Public Utilities are dealing with these issues, that the discount -- I mean that the universal service aspect becomes as important as the interconnection, as important as the competition, as important as letting other carriers into the system.

What we have said is that there are four aspects to what we see the problems are: The discounted tariffs. There have to be tariffs in place that provide the discounts to the schools and the libraries. Then we have to talk about the technology in the schools. Do we want computers in the schools on each desk? Do we want interactive television between classrooms? Do we want a learning center? I mean, there are a lot of scenarios that we could go with.

The reason-- Well, let me finish the four out. The third part is the wiring. There are some schools that do not have the wiring capabilities as yet to access all these wonderful new modems and interactive video processes.

The fourth part, which we think is equally important, is the teachers. The teachers have to be educated so that their students will be able to take advantage of all these new technologies. The reason I concentrated more on the cyberspace, which was the outer limits, is because my particular -- this is me personally, I think -- philosophy is, it is wonderful to have one teacher who can teach four classrooms in Bergen County, in different parts of the county, teach Japanese, say, in four classrooms. That is the way the trends have become, in terms of scale and in terms of spreading the wealth of very sophisticated teachers. But I think teaching is more than a child sitting and watching the screen.

I think being able to use your own computer to do your own research, to communicate with a child in Indonesia, or a child in Japan, or to become pen pals with someone in Australia, or to learn from a teacher in France-- I think that is also part of what we want. We do not want kids sitting in front of screens watching wonderful-- They can do that right now with

television. We want to be able to begin to be interactive, and that is the part that I was just talking about, the interactive part of it.

SENATOR BUBBA: I think that's wonderful, I really do. I do not mean to debate with you, but--

MS. PERETZ: We are not debating.

SENATOR BUBBA: No. I absolutely support your premises, but you have to remember that in the back of our minds --

MS. PERETZ: Cost.

SENATOR BUBBA: --is the crisis that we are faced with, with the funding of education.

MS. PERETZ: Right.

SENATOR BUBBA: While I presented the idea to you as French 7, with 7 students--

MS. PERETZ: Right.

SENATOR BUBBA: --the issue is really this: If there is a teacher in-- As the budget gets tighter-- Let me say it this way: There has been a resistance to regionalized school districts. There may not be a resistance to regionalized classrooms. So a math class in four different areas might have one great teacher and maybe four or five aides in the different rooms to assist with the students. That is where I think I am headed when I talk about interactive education.

MS. PERETZ: Right. I support that. My office supports that. What we are doing today is just, I think, throwing out ideas and issues. I think this is the beginning. We are just starting on this road. We want to work with you. Obviously, cost is a very important issue. It is important to my office,

too, because who is going to pay for the Universal Service Fund but the ratepayers. I mean, that is going to be part of the wires charge. So we are all going to pay for whatever we do.

We are talking about the ultimate right now. That does not necessarily mean that our goals are always met, but here is what is out there right now, and here is what we see as the issues.

SENATOR CIESLA: Blossom, I think you have a few more questions. Senator Gormley, do you have a question?

SENATOR GORMLEY: Well, it was good to see that you cited a few great philosophers -- Plato, Mark Twain, and Joe Bubba. (laughter)

SENATOR BUBBA: That's right.

SENATOR GORMLEY: Your discussion with Senator Bubba covered the gamut. I will deal with the other side. I think everything you talked about is, obviously, of merit, and we would like to see it.

One, in terms of whatever discounts or moneys that will be provided by the New Jersey Telecommunications Trust Fund--

MS. PERETZ: Correct.

SENATOR GORMLEY: --we will work on that bill. That would be provided equally to parochial schools, wouldn't it?

MS. PERETZ: Well--

SENATOR GORMLEY: See, because there has been case law in terms of textbooks being provided to parochial schools. This is one case. You know, we have gone through the-- You know, you could go through the writing of voucher ideas, and whatever. There would seem to me to be something that has a solid basis within our Constitution in terms of certain

services, transportation, and books that are provided to schools. It would seem to be under the parameters of the decision as it pertains to books, that it would also apply to parochial schools. I think we should research that as we go along, because I think it is under that same umbrella.

We can talk about all the services and all the children who would be affected based upon your review of Texas and other states. This is always debatable back and forth. Should we, at the time of fiber optics, have said there will be the New Jersey Trust Fund for education? I don't know, but I do know that we have a \$50 million line item in the budget for next year. It would appear that the Federal intent is that there would be some advantage for children for their education discount, or whatever, whether it be a trust fund or discount. How would you structure -- not getting into the discussion of what the nature of the service is, let us assume that we do have to have a master plan for the 21st century-- What do you think, today -- and this would be subject to change-- What do you think is the fairest way to amass the capital? What ideas do you have, do you think, that are equitable and the intent of the Federal legislation that we should look toward New Jersey, toward amassing the capital? And should we look toward having a New Jersey Trust Fund similar to Texas?

MS. PERETZ: In amassing the capital, you are talking about funding all these projects. Well, I think we are now unbundling the telephone system. I think that all carriers-- Ten carriers have recently filed in the State of New Jersey to render local exchange competition in New Jersey. Every carrier that gets certified to provide local exchange competition in New Jersey should have included as part of their rates moneys that are dedicated to the

Universal Service Fund. Well, a Universal Service Fund is greater than just discounts for schools and libraries. A Universal Service Fund is also for those low-income people who cannot afford telephone service. A Universal Service Fund also includes parts of the State which are geographically remote areas, where it is more expensive to wire.

So I think that any carrier that wants to be authorized to provide local exchange competition in New Jersey -- local exchange service -- should have to pay, as part -- should include, as part of their rates, moneys that are dedicated to the Universal Service Fund.

SENATOR GORMLEY: Yes.

MS. PERETZ: Now, that is not happening now, right, because the long distance carriers, right now, are contributing to a national Universal Service Fund. So that is something that is going to be decided, right, and we are waiting for guidelines from the FCC, and we will be waiting for guidelines from the Board. This is something that is going to be debated at the Board in the next few months.

SENATOR GORMLEY: It would seem-- Well, it wouldn't seem, it is a fact that the intent of the Federal legislation, at least-- If someone were sitting at a hearing in Washington, they would say, "Oh, this is designed to help education. It is in the preamble. It is the intent."

What I am trying to do is quantify, and I will err on the side of quantifying too much, but I think we have to get a handle on perspective dollars and what we are going to do for the educational infrastructure in this State, and what legitimate trade-offs there are, or were intended by the Federal legislation. Although certain people can accuse individuals of being simplistic,

I think what we have to do is look toward what we think the value is and what we think the Federal government meant, and say a dollar amount. Because, quite frankly, if we-- It would seem that if we don't quantify it, then we run into a situation where that vagueness, if you will, will-- I don't think it creates for the coherent program we need between the regulators and the Department of Education.

MS. PERETZ: That's true. You're right, and that is what is going to be done at the Board in this hearing that is-- I don't have the dollars in my mind. I have not done--

SENATOR GORMLEY: Blossom, why don't you make a recommendation as to how much?

MS. PERETZ: I will do that, but not right now.

SENATOR GORMLEY: Oh, no, no, not right now.

MS. PERETZ: Okay.

SENATOR GORMLEY: Not right now, but I think, quite frankly, instead of waiting until-- You know I have a high regard for you. I think your office, in terms of an area where legitimately being proactive-- I think this is a case of saying, "This is what we think should be coming in," because, quite frankly, it would be, I think, of assistance to the Legislature, given the education debate that we are going to have in the next six to seven weeks.

Thank you.

SENATOR CIESLA: Thank you, Senator Gormley.

MS. PERETZ: Thank you. I will do that, I will.

SENATOR CIESLA: Senator Baer, welcome. Do you have any questions?

SENATOR BAER: Yes. It seems to me that the definition of universal service is a very critical thing. Your testimony has certainly pointed that out. Not only are there cost constraints, but there are the difficulties that come from fitting together not only the variety of options that may be available technologically, but beyond that, how the views of experienced and knowledgeable educators interact with that.

Whether or not a conversation between students with another student in another country -- which is a very exciting prospect -- where that should fit on a priority level of different things that can be achieved technologically is something that requires a lot of thought, particularly since so many of these things and opportunities are things that are so new and there is limited knowledge, as well as the probability that no matter what determinations are made, the process is going to be in constant flux as new ideas are developed. Ideas from next year will produce experience for the following year that will dictate certain adjustments.

It seems to me that this is further complicated jurisdictionally, because you have, obviously, the Federal level and they, in turn, are providing flexibility at the State level, and your office, as well as the Utility Commission, is making determinations, or advocating positions -- yours more advocating, theirs more making determinations.

I can't think of anything, however, that could have more consequences for the State, for our future, and for the citizens than these types of determinations. So it would seem to me that we would want to have the broadest possible involvement in consideration of all the different options. First of all, the identification of the options, which presumably is a changing

thing from year to year, and secondly, dissemination of that information so that citizens and decision makers can all interrelate to that.

I assume that there may be some point where the Legislature may want to consider action, too, perhaps not on as detailed a level as a regulatory commission would make, where their action would be micromanaging, but perhaps at some level where there are important policy choices to be made.

With all that, I want to ask you how we, on this Committee, can become familiar with the widest possible alternatives in terms of definition of universal service? What are the different ideas in terms of how different-- I guess there are different compartments and aspects of it, but there are probably many different ways within each area where there could be definitions. With some of this we may already have advocates urging one view or another in terms of definition, advocates that we may not yet be familiar with. We want to get this information. Some of this advocates may have yet to evaluate and make determinations on, whether those are advocates in education, advocates in business, advocates with citizen groups, or whatever.

So, just as what we are discussing here provides tremendous opportunities for information to be productive for the entire State, our ability to deal with that depends, in turn, on how much information we can usefully get to help us in our decision making; how much information you have, how much of that information is going to be available in one way or another for different citizen groups or individuals that are trying to understand what the choices are.

Could you give me your thoughts on that? I also say to anyone here who is planning on testifying, if any of you have thoughts on that which

you want to express today or in a more detailed communication through the Committee Chair and staff so that we would all get it, I think it would be very valuable.

MS. PERETZ: Well, one place I would start, Senator Baer, is-- I referenced this before. I was Chairman of the Cable/Telco Telecommunications Task Force that studied the issues of education and the funding of education.

SENATOR BAER: That was related specifically to cable?

MS. PERETZ: Cable and telecommunications.

SENATOR BAER: Oh, and telecommunications.

MS. PERETZ: In our committee we had representatives of the telephone industry and the cable industry. Some of them are here today and they will testify today, but what we did was compile in back of this, as an addendum: the "AT&T Classroom of the 21st Century," the "Bell Atlantic Interactive Distance Learning Service," the "Bell Atlantic Technology Initiatives/Grants," the "New Jersey Cable Industry Education Projects," "19 N.J. Community Colleges," and "NJN SERC Satellite Downlink Sites." So in this book are listed, with maps, all the projects that are now going on in the State to provide interactive, or to provide technology to the classroom.

SENATOR GORMLEY: Who is paying for it?

MS. PERETZ: Who is paying for it? Well, it depends. I mean, like, Bell Atlantic has donated their own resources to the Union City schools. The cable companies, as part of their franchises in all the communities, provide free service to the communities.

SENATOR BAER: But you indicated that that report is not just cable, it is telecommunications.

MS. PERETZ: Telecommunications, AT&T-- It is all--

SENATOR BAER: Does that report indicate, for the various programs, how they are being financed?

MS. PERETZ: Right now, they are being financed, as far as I know, by the companies themselves. AT&T has dedicated dollars. AT&T has dedicated-- How much across the country? (addressed to associate in audience; no discernible response)

SENATOR BAER: Well, at any rate, since this is--

MS. PERETZ: How much across the country?

UNIDENTIFIED SPEAKER FROM AUDIENCE: One-hundred and fifty million.

MS. PERETZ: One-hundred and fifty million across the country for its projects.

SENATOR BAER: Well, that is a generalization. You indicate that these are a bunch of very discrete programs, and some of them may be connected with AT&T, some of them may be connected with cable, some of them may be connected, for all I know, with other forms of communication. So I think it was a pertinent question. If you have the information and can provide us with that more specifically for the different programs, how that is being handled, that would be very helpful.

MS. PERETZ: Okay. Well--

SENATOR BAER: Now, nonetheless, this listing is only of programs that are presently underway. This does not include listing or

evaluation of some of the programs that have been projected, but have not yet been financed or decided on. Is that correct?

MS. PERETZ: Right. These are ongoing programs right now in the State of New Jersey. What I said in my comments was, I applaud every one of these programs, but the problem is that they are all piecemeal and scattered, and do not reach every community in the State. What we really need -- and I think what Senator Gormley is talking about -- is an overall, a uniformity. We need a uniform program to ensure that all students in the State of New Jersey will have the same kind of access as these piecemeal programs throughout the State. They are wonderful, and we applaud them, but they are select.

SENATOR BAER: Right.

SENATOR GORMLEY: I do not mean to cast aspersions on what has been done.

MS. PERETZ: Right.

SENATOR GORMLEY: This is all about dollars and cents.

MS. PERETZ: Correct.

SENATOR GORMLEY: I want to know how much money they are going to put on the table.

MS. PERETZ: Okay.

SENATOR GORMLEY: These are all very nice things that they are doing, but-- I do not purport to be an expert on this, but is this-- These are very nice things that fill up a couple of pages so they are able to say at hearings, "That's great." I want to know what the value is of what they are doing in this State, and what value should be coming back to education. Were

these lines that would have been run anyway? I cannot answer that. That is why I am asking you to put the proposal together.

MS. PERETZ: Right. Okay.

SENATOR GORMLEY: We are going to start with the dollar amount at the top and work down. That's \$150 million across the country. That's fine. It may make, possibly, for some very good photo opportunities and some very good programs, but then you cite a program in Texas that is \$150 million a year for Texas.

Now, that might have been the result of a rate case. We do not know that.

MS. PERETZ: Right, right.

SENATOR GORMLEY: But there is somewhere in between where there is a high amount of equity, and I would like to start with the number and work down.

MS. PERETZ: Well, part of this will be happening at the Board as part of the current docket, part of the Federal government, but you are right.

SENATOR GORMLEY: But your role--

MS. PERETZ: Role is to--

SENATOR GORMLEY: You are independent, and you can make that recommendation.

MS. PERETZ: I would like to do that.

SENATOR GORMLEY: I know you have the background to do it.

MS. PERETZ: Right.

SENATOR GORMLEY: And will start with--

MS. PERETZ: Okay.

SENATOR GORMLEY: There are some wonderful paragraphs in there, but, quite frankly, we should be starting at the number at the top--

MS. PERETZ: Okay.

SENATOR GORMLEY: --that you think should be contributed. And then we will talk about the programs.

MS. PERETZ: Great. I would like to do that.

SENATOR GORMLEY: Do you get the drift?

SENATOR CIESLA: I think she heard that, Senator.

SENATOR GORMLEY: Get the dollar amount.

SENATOR CIESLA: I know that Senator Baer has not concluded. Senator Baer?

SENATOR BAER: Yes, I do have some further questions, but I welcome Senator Gormley's comments, because they are right on point.

In our becoming familiar with the options we have, of course part of which are going to be defined economically by the amount of money, assuming that that amount of money-- Well, on the money itself, I am not sure whether what you were talking about with Senator Gormley in terms of the starting amount was a starting amount that was based on a judgment of your advocacy as to what is needed in this State, or whether that is the starting amount based on your understanding, with the information available, of what is obligated to be put in under Federal law in terms of what the various component industries have indicated that they will make available, whether we are talking about a total amount that is presently expected to be available, the

difference being one as to whether or not the State takes any action to increase that pot.

MS. PERETZ: Well, the Federal Telecommunications Act gives the State that ability. In other words, there will be direction from the FCC on the Universal Service Fund, but in the Federal Telecommunications Act, it provides that the states can go beyond that and decide where their dollars are needed. The State has the ability to refine whatever the Federal government does and to add to it. The State has that jurisdiction under the Federal Telecommunications Act.

Just to augment what you are saying, Senator Baer, I think you are right in thinking -- and I think this is what you are saying -- that my office alone cannot do this without the State Department of Education and without, you know, those people who have the ability and have the knowledge about the school districts and which school districts are now wired and what basics the programs should look like. It has to be a community effort in terms of where we go and what kind of a program we put into place.

I think what Senator Gormley has asked me to do is to talk about the dollars, how we get the dollars, and then what we do with them.

SENATOR GORMLEY: Is this for the Department of Education?

MS. PERETZ: Right, right, right.

SENATOR BAER: Well, the Department of Education has a great deal to contribute in terms of their knowledge here. It is not clear to me, with the restructuring of your office as a result of the demise of the Department of the Public Advocate, whether you have the independence to come up with a

number that you might advocate that might differ from that of the Department of Education.

MS. PERETZ: We have been created as a totally independent entity in the State of New Jersey to represent the interests of all consumers and ratepayers in any matter that affects any utility such as telecommunications and cable. So we do have that independent authority. We do it every day at the Board. John will testify. We are quite independent, and we make decisions like that every day, or determinations.

We hire experts. We have a budget for experts. We have consultants. We talk to other advocates all over the country. We do make independent decisions and determinations.

SENATOR BAER: So you not only have that independence of authority, but there is no compunction if you felt it was in the interest of the citizens to come out with a number, if you felt it was justified, that might not necessarily meet the approval of the Department of Education or the Department of State, to which you are attached?

MS. PERETZ: We are under the Department of the Treasury.

SENATOR BAER: Oh, the Department of the Treasury -- essentially the same kind of freedom that the ratepayer office had under the Department of the Public Advocate.

MS. PERETZ: Correct.

SENATOR BAER: Is it just as free?

MS. PERETZ: Correct, although we would--

SENATOR BAER: Because there was a lot of concern expressed about that--

MS. PERETZ: Right.

SENATOR BAER: --at the time of the transition.

SENATOR CIESLA: Senator, may I ask you to wrap up so we can keep on schedule for the balance of our witnesses?

SENATOR BAER: Yes, I will be very happy to operate on that basis.

How can you make available to us a lot of the meaningful materials that you get from other states, from their advocate departments or offices, so that we are more aware of some of the options presented in the form of varieties of other states' actions? There may also be communications that you have received from important organizations in this State, or national organizations, that made recommendations that are relevant. I would think that we would want to know about those, too.

Would you be able to provide the Committee with a listing of those, maybe itemizations of literature or something, so that we could review those and see what we want to draw on?

MS. PERETZ: All right. For instance, just yesterday I spoke to the Consumer Advocate who serves on the Federal Joint Board, which is trying to implement the Federal Communications Act. I do talk to people in other states, state offices, and Federal, and I have the ability to communicate to you that kind of information.

SENATOR BAER: So you will share your library with us?

MS. PERETZ: Absolutely.

SENATOR BAER: I will ask the same thing of the Utility Commission.

Thank you.

SENATOR CIESLA: Thank you very much, Senator.

Thank you very much, Blossom. I appreciate your comments. They were very insightful.

MS. PERETZ: Thank you.

SENATOR CIESLA: The next individuals we will ask to testify will be from the Department of Education, Marianne Rhodes, and Jeffrey Osowski, Assistant Commissioner.

Welcome, Jeff. Welcome, Marianne.

ASST. COMM. JEFFREY V. OSOWSKI: Good morning, Chairman Ciesla and members of the Committee. It is nice to be here.

This is not Marianne. This is Julia Stapleton. Some of you may know her. Julia is the educational technology expert in the Department of Education. I will rely on her every once in awhile if I need to, if that is okay with you.

I am the Assistant Commissioner in charge of finance, technology, administration, and grants management in the Department. All four of those areas certainly touch upon technology and telecommunications every day of my life. I am relatively new to that role, particularly the role of heading up technology in the Department. I am learning a lot very quickly. Hopefully, I will be able to provide you with some important information for your deliberations regarding the vision of the Department of Education for the establishment of distance learning as an effective tool for bringing about equity and excellence in the State in our educational system, as virtually every member of the Committee has mentioned already today.

My comments will be focused on education. I really want to get to the point of what we think is needed in the schools in the way of telecommunications to assure that every child in every district has the opportunity and ability to achieve the recently adopted rigorous core curriculum content standards.

Today's technologies have an incalculable influence on living, working, playing, and learning. Research and experience attest to the value of using computers, interactive video technologies, communication networks, on-line reference services, media programs, and distance-learning activities to enhance the instructional process. I think everybody recognizes that technology is probably, assuredly the most effective and efficient educational tool of our time. We in the Department of Education are acting to assure that every student and educator will have the resources necessary to use this tool effectively for instructional purposes.

As you are all well aware, the New Jersey State Supreme Court has ruled in its *Abbott v. Burke* decision that the State must implement, by September 1997, a funding system that ensures equal educational opportunities for all students regardless of the district in which they attend. In response, the Department has developed a school funding plan that is driven by the rigorous core curriculum content standards and is based on the efficient delivery of a thorough education.

This plan, the Comprehensive Plan for Educational Improvement and Financing, recommends that \$50 million be included in the Fiscal Year 1998 State budget to establish a distance-learning network in the State. This \$50 million would be distributed to districts on a flat per-pupil rate, and the

network for delivery of voice, video, and data established through this fund will offer all districts, including those that are poor and have large numbers of disadvantaged students, an opportunity to obtain quality programs for their students so that all students will have access to the kinds of curriculum, instruction, and information that will enable them to achieve the core curriculum content standards. This is very much in keeping with Senator Bubba's comments earlier about the worth of distance learning in our State, particularly as applied to that very complex equity equation that we talk about so much.

We agree that there are (a) a lot of school districts in our State, and (b) a lot of instruction that is difficult to deliver to all of those students, particularly for those that are involved with low enrollments, like advanced calculus, Russian, or bilingual algebra II. If you have a classroom where you have five students who are going to be taking that Russian course, it is very cost-ineffective to do that, but if you can link those students, as in the case of Bergen County and many other counties in the State -- if you can link classrooms across five districts with five students all taking that Russian course, (a) you then have a cost-effective program, and (b) you have a situation in which students, particularly those in the less advantaged districts -- the students would be able to access the course offered in another district, or in any district in the State.

In fact, our vision is that when an effective distance learning network is established, any student in any district will be able to take any course in any district. Then, all of a sudden, you have accomplished that regionalization of classrooms that you mentioned earlier.

Of course, it goes well beyond that. I know you earlier discussed is it just Internet, or is it more than that. We believe, of course, that Internet is an important part of this equation, but the connection of classrooms is an important part of the equation also. The ability of students to access libraries at any university in the country, or the world, for that matter, is an important part of the equation. The ability to bring businesspeople into the education situation through distance learning is another important part of the equation. The ability of students in high school to take college courses is still another part of that equation. We believe that when we get up and running this distance learning network, we will have significantly broadened the course offerings to every student in the State, and the information brought to every student in every classroom in the State.

Just to summarize the first part of my testimony here, this distance learning network is an essential part of the equity equation to assure that all students are able to achieve the rigorous core curriculum content standards.

Going on to the current status now, our assessment is that the majority of our schools are not yet equipped to participate in the opportunities presented by distance-learning and telecommunications networks. While telephones, modems, and videoconferencing are present in varying degrees in some school buildings, they are not yet generally found in classrooms. You find pockets of brightness here, there, and everywhere, but if you stand back and look across the whole State, we have to say that we are nowhere near where we want to be.

Some estimates have shown that fewer than 5 percent of New Jersey's classrooms are equipped with telephone lines for telecommunications

access. That is sort of a bottom line I am starting with there. That is not sophisticated stuff. Furthermore, most schools lack access to appropriate hardware and software; they lack effective administrative, organizational support; and they do not have the technical expertise to integrate electronic networks into the teaching and learning process. Sometimes it is very basic stuff, except we do not have the electrical capacity to plug the equipment in to make it work.

I would like now to discuss a few initiatives in which we are engaged that we believe will lead to the establishment of the distance learning network I have described. You are going to see how they are essentially built into this.

First are the grants that we provided through the Classrooms: Connections to the Future initiative which were provided through a legislative appropriation in the last two years, totaling \$1.3 million. Through these grant programs, students are provided with diverse and challenging curriculum through the establishment and enhancement of interactive audio and video broadcasting classrooms and transportable equipment.

In 1995, we gave out 11 awards for unique distance-learning projects. They spanned the State and they ran from grade 3 on up to adults, very effective programs. The past school year, we gave 9 regional awards at \$35,000 each for distance learning activities, and also 2 interesting awards of \$150,000 to consortia -- there were 2 consortia programs. The point there was, we can give a grant to an individual district and say, "Establish distance learning," but we are giving a grant and they are going to be focused on what goes on in their school buildings alone. With the establishment of the

consortia what we tried to do was link districts into a network. An interesting twist on it is that these consortia grants had to involve at least one Special Needs district and at least one IJ district, I believe, Julia, wasn't it? (indiscernible response) Of course, they included many more than that, but we wanted to make sure that we spanned the range of wealth in those consortia arrangements.

Over the two years, the 22 projects have provided students with diverse and challenging curriculum through interactive broadcasting classrooms or transportable equipment. Those grants have demonstrated the worth of distance learning clearly, but we have to recognize that they were demonstration projects, pilot programs. There were only 22 of them, and that is certainly not a statewide or a countywide network. We have to move forward from there.

In the 1997 budget, we have a \$10 million aid program through which each district will receive a set per-pupil amount, no more than \$8 per pupil in every district in the State in nonlapsing, but dedicated funds to be used for capital expenditures required for state-of-the-art technology projects. That is a step in the right direction, but still it is not something that will, either in its magnitude or in the way the money will be delivered, lead us fully to a distance learning network, the kind I described earlier.

SENATOR BAER: Did you say \$8 per pupil?

ASSISTANT COMMISSIONER OSOWSKI: Eight dollars and twelve cents per pupil, a total ten million dollars for the State.

The 1998 budget -- I am not going to say budget -- the proposed plan for financing education included a recommendation that \$50 million be

added for a distance learning network. That money, too, would be distributed to districts on a flat per-pupil basis, a little more than \$40 per pupil. The intent of it is to take those great ideas that were established in those 22 demonstration projects through the grants and to have that kind of technology available, that kind of distance learning available in all of the districts in the State. We recognize that it is not something that occurs in one year. It will take time to do this, but that will move us strongly in the right direction.

The way we think it should be administered, of course, is that it should be generated on a per-pupil basis; it should not vary from pupil to pupil. Districts should be able to expend the funds for distance learning. It should not be simply for the purchase of stand-alone PCs. It should be for the purpose of networking schools, classrooms, students, and teachers throughout the State. In order to make that happen, we simply cannot give \$40 per pupil to each school district in the State. We have to bring them together in some way. So using some of the models that are now in place in Bergen County, Mercer County, and some other places, we believe there needs to be a county coordinating council that will include the school districts and the key players in this networking, and that they will develop a plan for coordinating or establishing the network in their county. Then, of course, there would need to be a State coordinating group also that would be responsible for coordinating the counties.

The point here is that it is not enough to go out and purchase televisions and cameras. Districts have to work together, speak with each other, and develop a plan. Then the expenditures have to be made in the

context of that coordinated county and coordinated State plan. They would have to be dedicated to the network as described in that coordinated plan.

I think Blossom referred to, and some of the Senators referred to the capacity of staff in the schools to deliver on this distance learning network. We know that is a significant issue. If the distance learning network is to function effectively, our teachers and administrators need to be equipped to deliver it. To that end, we are establishing another grant program. It is essentially the evolution of the first two years of the interactive Classrooms: Connections to the Future grant program.

The budget for 1997 includes \$500,000. Our intention is to focus that money on the establishment of educational technology teacher training centers, at least one in each county through a grant program. The intent is to have the money serve as seed money over a three-year period of time, to have it gradually decline over that period of time, and to assist those centers in becoming freestanding. Their role would be to provide training to educators in the county. The grants would go to the districts that, through competition, had been determined to be the most capable of delivering that training. That means that if you are in Hunterdon County -- where I happen to live -- and a school district that is way out in front gets the grant, what they know will be able to be delivered to all the other teachers and all the other districts in that particular county.

Absent that, we can set up all the hardware, all the software, all the connections we want. If the teachers don't know how to use them, it won't work. So that is a real important part of the equation, and we plan to invest in it heavily.

You may be aware that we have a substantial amount of Federal money under the Goals 2000 Act, which was recently reauthorized in a way that focused substantial portions of those dollars on educational technology.

SENATOR GORMLEY: How much?

ASSISTANT COMMISSIONER OSOWSKI: We have about \$8 million a year, not all of which would be for grants, but a significant portion of that could be directed to this.

SENATOR GORMLEY: Jeff, if I may, I would like to-- Excuse me for interjecting--

ASSISTANT COMMISSIONER OSOWSKI: That's okay.

SENATOR GORMLEY: --but I am a little anxious to get this focused.

ASSISTANT COMMISSIONER OSOWSKI: Sure.

SENATOR GORMLEY: We need to know how much the total infrastructure cost is that you are talking about. Quite frankly, it is hard to negotiate. That is why I made the comments to Blossom that I made. The program to wire New Jersey to get the schools, all schools-- I made the point about parochial schools, and I want to make sure that all students are included. What is the total infrastructure cost? Not that this grant isn't-- They are all wonderful programs, but as you pointed out, they are only a segment. This is the time to negotiate.

What I request -- and obviously Blossom is going to ask you for this -- is, what is the overall-- By the way, is there -- and I did not see it reflected -- the number, the overall infrastructure cost that people talk-- I would also be curious--

You talk about the \$50 million. To whom would that be paid? Is that paid to some of the utilities for some of these services, or paid to computer companies, or whatever? I would be curious to hear if a part of that \$50 million would be paid to some of the people who might be testifying today. So when can we get a gross dollar amount, a 10-year plan, a wiring plan, a per-student plan?

The grants are commendable, but we are trying to deliver those services and come up with an overall plan in order to know what we need to be discounted and what we need to negotiate for. That is the direction we have to take, and it has to be done fairly quickly.

ASSISTANT COMMISSIONER OSOWSKI: Well, we can assist with that. I do not have a number for you today, Senator.

SENATOR GORMLEY: Do you have a guess?

ASSISTANT COMMISSIONER OSOWSKI: No, I don't.

SENATOR GORMLEY: But you can understand, we have to start with a top-down approach in terms of what we are going to be asking for, in terms of a plan for New Jersey, and segue that into what Blossom is going to recommend.

How about the other question. On this \$50 million, does a portion of that money-- Was that all for in-house computers, or was a portion of that to be allotted for some of the utilities you deal with?

ASSISTANT COMMISSIONER OSOWSKI: Let me try to address both questions.

The \$50 million is, of course, intended to be distributed to school districts for the establishment of a distance learning network. We have not

described to them, at this stage, what they may spend the money on, on the one hand. On the other hand--

SENATOR GORMLEY: Okay.

ASSISTANT COMMISSIONER OSOWSKI: If I may just finish on this one point, please. On the other hand, we know that it would involve the purchase of equipment -- PCs, televisions, cameras. It would involve electrical wiring. It would involve the electrical capacity. It would involve the wiring to make the connections. It would involve usage fees. It would involve the training of staff. The big picture has an awful lot of stuff in it, and I think they are getting a little bit of shakiness on-- Let me give you a number right now, because it is a very difficult and elusive one to get, although you have to have it.

SENATOR GORMLEY: You have to understand that unless we have a number, we will be talking about some very nice model programs, and we will not be dealing with the cost per child, as the Governor is trying to put together with the formula. So it would seem-- Given the court deadline, and given the fact that there is a Federal mandate that there be an interaction here between education and telecommunications, it would seem that it would be timely to do this within the next few weeks.

ASSISTANT COMMISSIONER OSOWSKI: I would agree with you.

SENATOR GORMLEY: I'm sorry.

SENATOR CIESLA: Jeff, do you have anything else? Could you just maybe wrap up your testimony?

ASSISTANT COMMISSIONER OSOWSKI: Yes, absolutely.

On the \$50 million, we believe the State has a commitment, has a responsibility. I think our intention is that that \$50 million is really in the building stuff.

SENATOR GORMLEY: Okay, fine.

ASSISTANT COMMISSIONER OSOWSKI: It is cameras, TVs, that kind of stuff, as opposed to the connection to the building or the usage fees. So that focuses on how the money will be spent.

SENATOR GORMLEY: Good, good. I just wanted to clear that up.

ASSISTANT COMMISSIONER OSOWSKI: I was just about at the end, Senator, anyway.

In terms of universal service and its definition under the Telecommunications Act, that, too, is an important part of the puzzle. Recognizing how important it is, Commissioner Klagholz and President Tate of the BPU have met, and will meet regularly. Our staffs are working together very closely, because we know we have to coordinate our efforts to make this work. In fact, we have a Memorandum of Understanding that will be provided with a great deal more detail in this year.

If you ask me what my druthers would be on universal access, I would say focus it on the connections to the schools and usage fees, and get the best possible usage fees for school districts that we can possibly get. If, right now, in some cases it is \$30 per classroom per month to connect a simple telephone line, that is an expenditure for a school with 30 classrooms that is going to approach \$10,000 a year. That is not acceptable. You know, we think we need to have better usage fees than that, and it is not just for

telephone access, obviously. It is for things like Internet access and all the other connections that are necessary to make a distance learning network happen.

I think our vote in this case would be to really zero in on the connections and the usage fees to get the best possible rates for our school districts.

I would be glad to answer any questions you might have.

SENATOR CIESLA: Thank you very much.

Senator Baer?

SENATOR BAER: Yes. As you are putting this together, I assume you are, as part of the distance-learning concept, evaluating many different types of distance learning such as those that have been mentioned by this task force, and you are making determinations as to which of them you want to include in your plan, and which of them may be a little futuristic.

In other words, before one can get into just a question of adding up numbers or doing different types of wiring or connections, whether for electric capacity, whether for communications, intercommunications, or whatever, there is a determination to be made as to the basic type of educational program that is using the communications, whether it is classroom to classroom, whether it is classroom to a specialty teacher, or whether, in some cases, it is remedial work that is tied in with maybe individual students who come to school afterward, or maybe even, in some cases -- well, we haven't gotten to that, outside of the schools yet -- or whether there is any other way in which remediation can be delivered, other than to the school itself.

What I wanted to ask you is: What is the decision-making process that we will come up with in the next few weeks so that you can have this dollar figure, the decision-making process that is going to lead to the decision that you want this educational and telecommunication capacity to be able to have this program on a statewide basis, or that capability on a statewide basis, or this capability optional statewide where another is needed, or whatever?

What is the decision-making process that your Department is undergoing in making those determinations, because I assume it is not going to be just waiting until all the different school districts in a county get themselves together and come up with a master plan, and then all the counties get together and come up with a master State plan, unless you think that can be accomplished within the immediate time frame so that we know where we are economically?

ASSISTANT COMMISSIONER OSOWSKI: Senator, I do not believe that can be accomplished in that time frame, clearly. That system in process is not established and up and running.

SENATOR BAER: So you are not going to be using that decision-making process to reach this determination. You are going to be using another process. What is that?

ASSISTANT COMMISSIONER OSOWSKI: That is not exactly true. I think one of the things we can do is rely upon those counties that do have a network established now and get some estimates from them as to what the costs would be.

Another thing we can do is establish a prototypical school. One of the things I think I want to emphasize is that we, in devising the

comprehensive funding plan, modeled things, but we did not prescribe things. We may have said that the model classroom size would have 21 or 22 students in it, but we did not say they all have to have 21 or 22 students. It was a similar thing with the educational technology. You have to recognize that (a) it is changing daily, so what you estimate today will change tomorrow, and (b) there are a lot of different ways to do it.

For example, if you said, "In every one of our school buildings in this State we want to have the capacity for interactive television so that districts can link with each other across the State," well, does that mean one classroom? We can cost out what a classroom would cost, but does that mean one classroom? If we say, "Well, no, in a school this big it means one, in a school this big it means two, and in that big it means three," that would all have cost implications. I am trying to emphasize that there is a way to come up with a prototypical school, but there are a lot of complex factors that go into that equation, and they all need to be considered.

I think my preference, at this stage, would be to-- You asked for a process. The process would be to describe a prototypical school, a prototypical school that five years from now would have all of the educational technology based upon what we know today, in order to deliver on the vision I described earlier; that is, every student will be able to access any course in any district of the State.

SENATOR BAER: Let me see if I understand what you mean by prototypical school.

You are not talking about a model school in the concept of a pilot program that would have just a few of these stellar pilot programs located here

and there that would be on-line and might be very attractive, from the point of view of Senator Gormley as photo opps and stuff, to give us an idea of what might some day be ahead.

You are talking about, I assume-- I don't want to put words in your mouth, but I assume that when you say prototypical that typical means that this is what you are projecting all schools will have within this limited number of years. Is that correct?

ASSISTANT COMMISSIONER OSOWSKI: That is correct.

SENATOR BAER: Therefore, our costing would be based on that concept, and not on a pilot concept.

ASSISTANT COMMISSIONER OSOWSKI: That is correct. We also recognize that we are learning from the pilot concepts, though, as to what works and what it costs.

SENATOR BAER: The pilot is part of the process, but what you are costing for us, even though it may use information derived from pilot efforts, is something that is going to affect the State's universities statewide.

ASSISTANT COMMISSIONER OSOWSKI: If the pilot had 1 classroom connected and there were 30 classrooms and all needed to be connected, obviously, you are not going to use the pilot cost. You are going to have to up that cost to represent the full connection of the school to get to the prototype.

SENATOR BAER: All right. Well, I did want to ask you, relative to that: Are you planning, as part of your prototypical school, dealing with problems of remediation, particularly since problems of remediation exist everywhere, but have also been identified as part of the Supreme Court's

decision on school funding as one of the principal challenges. In other words, they speak not only of the need to provide equal opportunity, but to provide something extra for those who have been held back in one way or another and need to do some catching up.

ASSISTANT COMMISSIONER OSOWSKI: Absolutely, yes.

SENATOR BAER: Thank you.

Lastly, I would like to ask you: As an educator, as you are looking at these things, are there certain outstanding educational think tanks in this country? I have heard of others in past years before there was so much emphasis on technology, whether Carnegie, or whatever. Are there certain educational think tanks which are in the forefront of this? Are there certain educational periodicals and publications which are in the forefront of this which you could provide us information about?

ASSISTANT COMMISSIONER OSOWSKI: We certainly could. We do rely upon State and national networks and information sources. So we can get you that.

SENATOR BAER: Very good. Thank you.

SENATOR CIESLA: Thank you very much, Senator Baer.

Thank you, Jeff. We appreciate it.

ASSISTANT COMMISSIONER OSOWSKI: My pleasure.

SENATOR CIESLA: Thank you, Julia, for being here for us.

We have three other individuals who have signed up to testify, starting with AT&T, Bob Nersesian. I hope I am pronouncing that correctly.

Bob, if you have written testimony, I would ask that you submit that. If you do have written testimony, could you please paraphrase it? That

would be preferable to your reading it, since the members of the Committee do have it.

BARBARA THURGARLAND: Good morning. My name is Barbara Thurgarland. I am a Legislative Manager for AT&T. I would like to thank you, Chairman Ciesla, Senator Bubba, and Senator Baer, for allowing us to speak today on the educational initiatives which AT&T is undertaking.

I would like to introduce Bob Nersesian, who is the Community Relations Director, who will testify on behalf of AT&T.

Thank you.

ROBERT S. NERSESIAN: Good morning. It is my pleasure to provide testimony today regarding AT&T's support of education in New Jersey.

Let me begin by saying that AT&T has a long and deep history of support for education, and it is founded on the belief that learning is a lifelong process. The company supports lifelong learning for business reasons, obviously, and for the better society it inspires, the knowledge it imparts, and the values it engages. AT&T's investment in lifelong learning, from early childhood to adulthood, incorporates the company's products, services, people, and financial resources.

As the world's networking leader, AT&T is dedicated to using technology to ensure anytime, anywhere communication. On a more local level, New Jersey is AT&T's home state, with more than 30,000 employees. In addition to sending their children to New Jersey schools, many of AT&T's employees are school board members, PTA participants, and school volunteers.

This type of involvement reflects the company's belief in supporting the communities in which it does business. As Governor Whitman mentioned in her op-ed piece yesterday in *The Star-Ledger*, "When done properly, public and private partnerships benefit citizens, government, and corporations." So whether we are providing mentors for after-school programs, teaching Internet classes to educators, or giving grants for creative use of technology in the classroom, AT&T works with the State, local education officials, parents, teachers, and community officials to ensure that our programs are providing assistance where it is most needed and in the most effective manner.

As New Jersey's largest technology company, we employ world-renowned scientists, Nobel Prize winners, and others with a high degree of technical knowledge. We see it as our privilege and our duty to share these with New Jersey's education community. To achieve that goal, AT&T has donated more than \$25 million in support of local education initiatives in New Jersey over the past 12 years. I might mention that on a yearly basis, we put into the New Jersey economy approximately \$3 billion, about \$12.3 million every business day for taxes, salaries, pension benefits, etc.

Let me give you some examples now of our support for education in New Jersey.

Through the AT&T Loaned Executive Program, we provide management skills, technology brainpower, and other assistance to numerous State agencies. Most recently, we have provided an executive to the Department of Education's Office of Technology Implementation to assist with computer and communications issues in northern New Jersey schools, many

of them in Special Needs districts. A second executive is on loan to the Governor's Office of Volunteerism to help coordinate corporate participation in the State's Urban Schools Service Corps.

In addition to helping improve education at the policy-making level, we work directly with colleges, universities, elementary and secondary schools, and community organizations.

For example, AT&T was a founding member of The Business & Education Together Foundation. The group is a project of the Morris County Chamber of Commerce that forms networks of people from commerce and education to develop and implement collaborative projects. The Somerset County Chamber also has a Business & Education Together initiative in which AT&T participates.

We have a long history of working to advance higher education in New Jersey. We have a long relationship with Rutgers University. AT&T, in fact, employs more Rutgers' graduates than any other corporation in the world. Our relationship has obviously resulted in a number of programs and initiatives. Among the most notable are the Douglass Science Institute, a summer program designed to encourage women to enter science and mathematics. Another is our initiative with President Francis Lawrence to institute the Total Quality Management process throughout the University. We have also made numerous research grants in engineering and computer science. Through its support of these and other programs, AT&T has contributed more than \$8 million to Rutgers over the past 12 years.

Our relationship with Princeton University has yielded similarly impressive results. We have funded scholarships for Ph.D. students, provided

grants for industrial ecology studies, and underwritten research grants in engineering and computer science -- a total of \$7.6 million in cash and in-kind support since 1984.

The same holds true for our relationship with NJIT. One key initiative is our Multi-Lifecycle Engineering Center, which is a little too complicated for me to understand. It is a \$550,000 AT&T-funded project which examines the use of environmentally safe materials in the manufacturing process. To NJIT we have given over \$3 million over a 12-year period.

At Stevens Institute of Technology, we have worked with the Dean's Office and the Office of Women's Programs, which provides girls in grades 7 to 12 the knowledge and experience necessary to make informed decisions about engineering and science as academic fields and career options. To Stevens we have given more than \$3 million in philanthropic support since 1984.

At Kean College, AT&T has a project called Project Adelante, a program where future teachers are trained to use state-of-the-art computer technology. We also provide employee volunteers who offer technical assistance, so that when these teachers go into the classrooms they are fully prepared to teach their students about the latest applications and capabilities. That program has received \$150,000 from AT&T.

The same type of high-tech resources were brought to two New Jersey college campuses last year through our University Equipment Donation Program. AT&T provided multimedia workstations with high-capacity

CD-ROM storage, a server, laser printer, networking hardware, related software, installation, and maintenance.

Through this program, Georgian Court College in Lakewood is participating in the development of the New Jersey Intercampus Network which will link 39 colleges to the information superhighway to promote collaboration among colleges and provide access to new technologies.

At Rutgers University our donation will be used to equip a computer lab in the Labor Education Center on the Cook Campus. The new lab will support undergraduate, graduate, and continuing professional education programs.

AT&T's support of other New Jersey colleges and universities includes \$100,000 to fund Drew University's international study curriculum; \$25,000 to support the William Paterson College curriculum focusing on issues of race, gender, and class; \$7500 to support the Stockton State College science program; and \$40,000 to be distributed among New Jersey's private colleges by the Independent College Fund of New Jersey.

AT&T's involvement in New Jersey also enriches secondary and primary level education with an emphasis on technology initiatives. Our Technology in the Classroom Program, last year, provided \$100,000 in grants to 100 New Jersey teachers who used technology in creative ways to engage their students. Each winning teacher was able to use a \$1000 grant to upgrade their school's technology.

Some of these teachers learned these techniques at AT&T's Information Superhighway Academy and its Teachers & Technology Institute. Over the past three years, we have trained New Jersey teachers and

administrators from Special Needs and other districts to use the latest communications services and computing technology. For one week each summer, New Jersey educators gather at AT&T to learn from experts and to put that knowledge to use designing programs to bring back to their schools for implementation.

Examples of some of these projects include: the development of multimedia and animation courses for East Orange; developing a long-range technology plan for Irvington; blending technology and the arts in Union City; and training the trainers, in this case the district technology supervisor and librarians, who then instructed other West New York staff members in information technology.

Separate from our teacher training programs, in the Plainfield School District, we are using a combination of mentors and ongoing support to craft a deep relationship with the leaders, teachers, and students in that district. Working with the Plainfield School Superintendent, Dr. Larry Leverett, AT&T is assisting with the development of a strategic planning process to integrate all technology implementation, conducting an operational review of the staff and student accounting process, and providing leadership coaching with a primary focus on communication.

We have also developed and supported initiatives like mentoring and tutoring programs at Hubbard Middle School and Paul Robeson School. AT&T was also instrumental in design of the Plainfield Teen Parenting Program which helps young parents continue their education and learn important child-rearing skills. Recently, AT&T volunteers launched Plainfield High School into cyberspace by providing a microwave Internet link to Bell

Labs. Students and teachers are now able to learn about the Internet and create web pages with the help of AT&T volunteers.

We also use New Jersey schools as test sites for new services before they are brought to market. This allows students and teachers to get firsthand knowledge of the technologies of tomorrow. The Ranney School in Tinton Falls has been selected as a technical test site for new, network-based voice messaging services from AT&T. Currently under development, the services will allow administrators, teachers, and other school personnel to create messages and send them to voice mailboxes of individuals or groups of students and parents.

As part of the test, AT&T will provide the school with a voice messaging service, list management capability to create and edit voice mail distribution lists, and technical assistance in using the service.

In another technical test, AT&T Labs, together with our recently spun-off Bell Labs, are partnering with Columbia and New Providence schools. They are developing technical alternatives such as fiber optics and coaxial cable to provide high-speed broadband access and on-line services to New Jersey schools and homes.

They have installed 100 megabit-per-second connectivity to Bell Labs in Murray Hill and T-1 access -- which is really just a big, fat communications pipe -- to the Internet and World Wide Web through a Murray Hill server.

AT&T associates have a strong tradition of volunteering their time to New Jersey educational institutions and nonprofit organizations. They also contribute their dollars. Last year they contributed \$425,000 to colleges and

universities. Those funds were matched dollar for dollar by the AT&T Foundation, for a total of nearly \$1 million toward education in the State.

Employee involvement will also be key to the success of a project this fall which will connect many of New Jersey's schools to the Internet. As Ms. Peretz mentioned, Netday NJ, led by the Partnership for New Jersey, will be held during the month of October. AT&T was the first corporation to pledge support for the initiative. We identified personnel and provided \$50,000 to hire a project director for Netday at the Partnership for New Jersey. We also created and placed their home page on the World Wide Web, worked to promote the project with other corporations, and ultimately will partner with the Plainfield School District, among others, to wire its schools in October. Our employees will volunteer their muscles and technical skills to make this happen.

In preparation for the wiring of a large number of New Jersey's schools, we have widened the scope of our summer educators' program. This year, AT&T will offer one-day Internet training courses to nearly 500 New Jersey school teachers and administrators and librarians. We call it the Learning Network Academy, and you will hear more about the Learning Network in a moment. The academy is a one-day, hands-on program that will allow educators to surf the Internet as they explore its networks of information.

After this course, our commitment will not end. In fact, AT&T will be back this September to make sure that access to the information superhighway becomes a reality. It is then that we are going to launch our newest program, the AT&T Learning Network. This 5-year, \$150 million nationwide commitment to education was announced in October of 1995. Its

purpose is to give the nation's 110,000 public and private elementary and secondary schools access to the information superhighway by the year 2000. Besides being made available to schools, the program will expand into libraries in 1997. New Jersey has approximately 2100 schools, and approximately 500 public libraries to qualify for the program.

Participating schools and libraries will receive free software to reach the Internet; 100 free hours of Internet access; 3 months of free voice-messaging mailbox service; and toll-free technical assistance. In addition, wireless voice communications will be provided free of charge to 100 schools throughout the nation, and we hope to make several New Jersey schools part of this.

The Learning Network is AT&T's single, largest national commitment to education. It will benefit New Jersey immensely and will be combined with our other programs to offer even more to our schools and our children.

We have received recognition for our education programs from Governor Whitman and Education Commissioner Leo Klagholz. I must say, however, we are most pleased by the cards, letters, and phone calls of thanks that we get from teachers, administrators, students, and parents.

Today, you will hear many of the good things being done in New Jersey to further education. Unfortunately, not all of our citizens are privy to this kind of information. At AT&T we believe that it is important to spread the word that New Jersey has one of the leading education systems in the country and to instill pride among the residents of our State.

Thank you for the opportunity to speak today. I will now be happy to answer any questions you may have.

SENATOR CIESLA: Thank you, Bob.

I believe Senator Bubba has a question.

SENATOR BUBBA: Just kind of a point, and a question. Lest you think that Senator Gormley speaks without the backing of the other Senators here, let me pose the question that he probably would have posed had he been here.

You know, I really applaud what you have done up to this point. You know, this is kind of a forum for you to tell us all the good things you have done for education in the State of New Jersey. But let's put things into perspective for a moment.

There was an article in the newspaper that said you are now negotiating with Bell Atlantic to deliver local and short-distance toll calls. Now, your hope is to get 30 percent of the market.

MR. NERSESIAN: Nationwide.

SENATOR BUBBA: In New Jersey. Thirty percent of the market in New Jersey.

MR. NERSESIAN: No, actually 30 percent nationwide.

SENATOR BUBBA: Well, fine, nationwide, but this article talked about 30 percent in New Jersey. Thirty percent in New Jersey, based on what that article said, is \$12 billion. Now, let's put into context what you have said up until this point, and then talk about \$12 billion.

What I really think you should be talking about when you come here -- and maybe you will get a chance to come back and talk to us again--

What you should be talking about, what Bell Atlantic should be talking about, what the cable companies should be talking about is what it is that you are going to do for us -- us being the children of the State of New Jersey -- to help develop better education. You are going to make a ton of dough, and we are happy for you. I don't know if Bell Atlantic is going to be that happy, but, well, I guess they will do other things.

MR. NERSESIAN: I appreciate your optimism.

SENATOR BUBBA: They certainly have the means to do other things.

The thing is, with this kind of money and what the future holds for the children of this State with respect to technology, we want to be a leader. We want to be a leader in a way that helps you and helps us, but most of all helps the children.

When you located in New Jersey, you did not locate here because you liked the view in Basking Ridge. You located here because we have a tremendous population between here, New Jersey, Philadelphia, Pennsylvania, etc., and because the communication market is phenomenal in this area, which is great. Help us to help the children of this State.

I am happy that you contributed \$7 million to Princeton and \$8 million to Rutgers, but we are going to need an awful lot of money to help the children. I would really like to see you guys come here and help us by giving us ideas. What is it that you can do to help us to help the children?

I worked for New Jersey Bell and AT&T for 29 years. I know what you and Bell Atlantic are capable of. I really know. I know you could be the greatest help that this State could ever see. We are looking for your help.

MR. NERSESIAN: Sure.

SENATOR BUBBA: We pat you on the back. We are going to pat Bell Atlantic on the back when they come up here and talk about all the great things that they have done. But that is yesterday, and we are talking about tomorrow.

MR. NERSESIAN: Well, I agree with you, Senator. I think we have barely scratched the surface. As you mentioned, there is a huge market out there. It is going to be unleashed to competition. You and I both know we do these things out of the goodness of our hearts, but we also have business purposes. Just like Apple putting computers in all the schools, not just out of the goodness of their hearts, but trying to form customers. Trying to get a win/win going. I think that as you see more competition going on, you are going to see companies, obviously, trying to do their best in communities, because it is there their customers are, and their future customers.

I agree, we have barely scratched the surface. We were talking before about the Internet. Right now, the Internet is kind of like what radio was back when Marconi invented it, you know, kind of scratchy, and you had to slap on the headphones. I truly believe that the information technologies we are seeing in the beginning right now-- They are going to change the way we work, the way we act and think in ways we can't even imagine right now. So I truly believe that, again, you have the opportunity of looking at what Toffler calls this third wave of industrial development in this country. We have barely scratched the surface. I think you are going to see companies like Bell Atlantic, AT&T, and others fight to help out more in the communities.

I truly do believe that, because it is good business. It is good relationships, because they are where our customers are.

SENATOR BUBBA: By the way, the cable companies-- You are not out of the picture by any means. You can play a great part in this. We intend to help you to participate.

SENATOR CIESLA: Thank you, Senator Bubba.

I will add just one question. I think you will need to do some research and get the information for me, but I think it is a softer way of asking what Senator Bubba--

I would be curious to know what the gross of AT&T is in New Jersey, and the annual amount, as a percentage of that gross, that is dedicated to these educational programs. Whenever you can get that, I would just be curious to know what that is. I am going to ask Bell Atlantic for the same information when they arrive, because the numbers are staggering when you are talking about \$12 billion. It sounds like a lot when you give away \$10 million over 10 years, but as a percentage of that \$12 billion annual gross, \$120 billion over 10 years, I mean, it's-- The perspective--

MR. NERSESIAN: One thing I want to just say: We have been talking, obviously, a lot about money -- Senator Gormley was -- but I think we also have to talk about outcomes. Otherwise, you are going to run into the same problem that -- now I will talk as a citizen, a taxpayer -- we run into in terms of our education system right now. We are talking a lot about money. We are trying to move more into outcomes, and I think outcomes are what we have to talk about, even when it comes to information technology in the

schools. What is it that we want our children to come out of there with in terms of school to give them a competitive edge?

SENATOR BUBBA: Absolutely, absolutely.

SENATOR CIESLA: No doubt about it.

Senator Baer, do you have anything?

SENATOR BAER: Yes. I want, most strongly, to join in the expressions that have been made here by Senator Bubba and yourself. I also recognize the leadership position that your organization has taken, and some of the other organizations, and I recognize with consolidation within the cable industry, the leadership position that they enjoy today.

We will do our best here to develop ideas and policies and to think things through, but just as you have been a leader in the past, I believe it is conceivable that you may come up with concepts and programs even more ambitious than some that we might try to put together ourselves here as a Committee. The resources you have available to you in developing that and thinking it through are so much greater.

So without in any way wanting to be critical and commending you -- your organization, Bell Atlantic, and the cable industry for the tremendous initiatives they have taken in recent years to consolidate and put themselves in a position to be leaders, too, I want to communicate that we want you, as aggressively as possible, to give us your ideas for changing this scratching the surface. I, too, have been thrilled by the thought that what we have seen is nothing compared to what is coming ahead. These are things that have fascinated me. As someone who has sometimes been involved in technology, I see that the opportunity is-- There are just no words to describe how

staggering the opportunity ahead of us is. It seems to me that in this State we enjoy a unique opportunity to be leaders in the nation because of the density and the market that exists here, and the leadership that exists here -- corporate, educational, financial, and in other ways.

We do not want to be in a position where we have to press and push. We want to leap ahead together with you. I want to particularly join with you in what you say in terms of outcomes educationally, because I feel particularly strongly that outcomes are what are necessary. There has sometimes been an increase in investment without an increase in outcomes that lived up to expectations. Your focus on outcomes educationally is something that can be a very positive force for us in government who have not, sometimes, been able to achieve in outcomes what we have wanted to because various other institutions or systems have become hidebound.

We will be in communication more individually, collectively, whatever, but let's not blow this incredible opportunity where we can lead the nation, and perhaps the world and, at the same time, have this win/win outcome of having not only our youngsters able to be well suited to deal with competition on a world level, but also those youngsters who have been behind and are most at risk as to what their educational opportunities are -- where this can also address their situation in a way, perhaps, more effectively than can be addressed in many other urban areas where they do not have some of the tremendous things going first that we do in this State.

MR. NERSESIAN: Sure. I fully agree.

SENATOR BAER: Thank you.

SENATOR CIESLA: Thank you, Senator.

Bob and Barbara, thank you very much for your testimony.

MS. THURGARLAND: Thank you.

SENATOR CIESLA: The next individuals who are going to come up are from Bell Atlantic -- Jon Spinnanger and Eve Langer.

Jon, welcome. Eve, welcome.

JON P. SPINNANGER: Mr. Chairman, Senator Baer, I would like to present Eve Langer, who will actually make our formal testimony.

Eve?

EVE P. LANGER: Thank you very much, Jon.

Good afternoon, Mr. Chairman and members of the Committee. I am the Director of Opportunity New Jersey Initiatives for Bell Atlantic. I appreciate the opportunity to talk to you today about the important role technology can and does play in the educational arena.

I would like to summarize my comments.

SENATOR CIESLA: Thank you.

MS. LANGER: With forward looking vision, the Telecommunications Act of 1996 includes, under the umbrella of universal service, the provision of telecommunication services to our K-12 schools and libraries at affordable rates. While the universal service rules will be drafted at the Federal level to provide a competitively neutral framework for consistent policies, Bell Atlantic supports a strong role for State regulators.

As good stewards of public interest, they can ensure that New Jersey shares in this opportunity to bring the benefits of technology to our educational system. But the application of technology, in general, and to education, specifically, need not be limited to universal service.

My written testimony includes many examples of how Bell Atlantic is working with New Jersey's educational community to establish models where technology is being used successfully to help bring about improvements in educational outcomes. Through a collaborative effort with the State government, enlightened administrators, and dedicated teachers, we have learned many valuable lessons. We have learned that network technology is a significant component in improving educational outcomes and preparing our children to meet the challenges of the 21st century economy.

Just as the Telecommunications Act is intended to level the playing field and open up the telecommunications markets to full and open competition, technology can level the learning field for all our children, ensuring access and equity for New Jersey's diverse student population.

We have learned that technology is not a magic bullet. We just don't take all of this stuff, airlift it, and drop it down on our schools. We have learned that we must be part and parcel of a well-integrated plan that includes systemic reform, teacher training, and relevant and experiential curricula that integrates technology. Working together with key stakeholders in New Jersey, we have identified some critical needs facing our education system, and we have heard them here today. Just to review them, they include classroom access to communications information, that includes the Internet; building infrastructure and wiring; hardware and software; curriculum development and integration, systems integration, and teacher training.

To realize the full potential technology can contribute to our education system, we must address these critical issues. While some other states have taken a piecemeal approach, we need an overarching, statewide

strategy that is embraced and has the full commitment and financial support of the administration, the Department of Education, the business community, and citizens throughout the State.

New Jersey is well positioned to meet these challenges. The State Technology Plan has recently been updated. The State Board of Education has adopted all elements of the Plan, except for funding. Bell Atlantic's Opportunity New Jersey Plan creates an ideal platform for equitable access by students and staff to the information superhighway.

Under the leadership of Herb Tate, President of the Board of Public Utilities, the Education Subcommittee of the Cable Telecommunications Task Force, chaired by Blossom Peretz, has compiled valuable data and identified issues that will lay the groundwork for going forward. The New Jersey Department of Education's Classroom Connections to the Future and Consortium Grant programs are stimulating the implementation of state-of-the-art technology and driving systemic reform.

The allocation of \$10 million in the Fiscal Year 1997 budget and the proposed \$50 million a year for the subsequent five years to support distance learning clearly establish New Jersey's commitment to education. Furthermore, New Jersey's educators, dedicated teachers, municipal leaders, and the corporate community have all demonstrated their willingness and ability to partner with each other for progress.

In November of this year, New Jersey will have an education summit sponsored by our Commissioner of Education, Leo Klagholz. Working together with leaders from the education community and the private sector, Bell Atlantic will participate in the development of the strategic framework for

education to carry us successfully into the next century. The plan will include steps that New Jersey must be prepared to take in order to get its fair share of the Federal government's \$2 billion Technology Literacy Challenge. We invite members of this Committee to have input to the plan and to support the final outcome.

A joint board of the FCC and State regulators, including President Tate and New Jersey's BPU, will be making recommendations concerning universal service, including the definition of services supported by the universal service support mechanisms. They will do this by November 8 of this year. After holding proceedings to implement the recommendations from the Federal joint board, the commission will produce, by May of 1997, rules that describe the definition of the services to be included in universal service, as well as an implementation timetable. It would be important for this subcommittee to come together in April to better understand how New Jersey can derive the maximum benefit from the outcome of those proceedings.

Everyone is talking about the information superhighway. Everybody wants to ride it, but what does it really mean? Where will it go? Where will it take us? The answers are quite simple: This superhighway goes everywhere, and where it takes us and our children is up to us. The education community, New Jersey's visionary public policy makers, the business community-- Where it takes us is up to all of us.

Thank you very much.

SENATOR CIESLA: Thank you, Eve, for your testimony. We appreciate it very much. Jon, thank you.

Senator Baer, do you have any questions?

SENATOR BAER: No specific questions. There were some questions I raised earlier that you do not need to address now, but which you may want to get the Committee information on.

MS. LANGER: Absolutely. We jotted them down.

SENATOR CIESLA: Thank you for the time frames of some of the important meetings. I am sure this particular Committee will be looking at those meetings and seeing what the recommendations are, because as everyone has been talking about, we need to focus on outcomes, not necessarily just throwing additional cash at problems, because that might not resolve them.

Thank you for taking the time to testify.

MR. SPINNANGER: Thank you.

MS. LANGER: Thank you, Senator.

SENATOR CIESLA: Pat Tumulty, from the New Jersey Library Association.

After Pat, there will be one more, Lynn Nowak, New Jersey Cable Telecommunications Association.

PATRICIA TUMULTY: Thank you.

I am Pat Tumulty. I am with the New Jersey Library Association. I want to thank you for giving me the opportunity to discuss the importance of the new telecommunications law on the libraries of New Jersey. I will try to summarize my remarks about many of the things you have already heard today.

One thing we are very excited to see is that the new telecommunications law expands the definition of universal service. We

believe that is a very, very important thing. Universal service, under the old Telecommunications Act, meant that telephone, that one-to-one voice communication had to be available to everyone. But under the new Act, it says that everyone needs to have the benefits of the information superhighway available to them, and if they cannot have that in their homes, they have to have it available at community points of access. These are your schools and your libraries.

For far too long, I believe, we have kind of focused, in this State, on the aspects of competition of the information superhighway, rather than on access to people. I believe the balance that is put forth in the new telecommunications law tells us this access is just as important to the people of New Jersey. It is mind-boggling where you can go on the information superhighway. With the click of a button, you can have vital information on health, employment, and business information. You can virtually go to every country in the world, but you can only do that if you have access.

Certainly, the second important provision to us in the Telecommunications Act is the one that will provide affordable rates for libraries. Currently, libraries are paying business rates for a whole variety of telecommunications services, and as libraries begin to add electronic services, the percentages of their budgets devoted to paying for the telecommunications rates are growing. So we are very happy to see that this will be becoming available to us at better rates.

Certainly, you know that the FCC -- which you have heard a lot about -- will be taking 18 months to issue the reports on universal service, but we have seen that many other states have already begun to initiate the process

of expanding the definition of universal services in their own states. They have had many forms. For example, in Idaho, they have already gotten together and talked about what universal service will mean on a state level. They have done this in states like Washington, where they brought together consumers to look at the impact of the new Telecommunications Act on consumers in that state. I think it is this kind of dialogue that we are hoping will happen in New Jersey, that we will not just wait for the universal service rates to be set at the Federal level, which will, in some essence, create a floor. We want to see that there is something beyond that we can go for.

Although the New Jersey Library Association strongly believes that affordable telecommunications rates are essential to libraries, it is only one component of a much larger equation. If libraries do not have the hardware, the software, or the training to provide the service, preferential telecommunications rates will mean little.

Certainly, we believe that the states that are better poised to take the greatest advantage of the new telecommunications law are those states that are making that kind of investment in their infrastructure in the states right now. We have seen tremendous types of investment -- capital investment -- in other states in the country. For example, in Utah, they put in a \$17.4 million initiative for telecommunications in their state. In Ohio, there has been \$12 million allocated for library technology. In Missouri, they have passed approximately \$50 million in new technology, \$3 million to go to libraries, \$20 million to go to schools, and \$6 million to go to colleges. In the states of both New York and Massachusetts, we are seeing more dollars being allocated to library technology.

But, unfortunately, that is not the kind of commitment to infrastructure we are seeing here in New Jersey. How will our libraries be able to connect is the thing that is facing us right now. The State budget which you just passed appropriates \$1.49 per person to library services in this State. We have less money -- libraries -- this year than we had last year. In fact, we have 27 percent less money committed by the State to libraries than we had in 1989. That is not the way we can build an information technology future for our public.

Back in 1994, I testified before the Information Technologies and Services Task Force of the New Jersey Economic Master Plan Commission. In that, I recommended that we adopt an information infrastructure plan for New Jersey to ensure that our schools and libraries would always have the funding for the future.

We believe that if this State has made the commitment to a Transportation Trust Fund to ensure that our bridges and highways are better for the future, that we have to do the same for our information infrastructure. We can do no less.

Virtually every library in New Jersey that has Internet has done so through local commitment. The New Jersey State Library estimates that approximately one-half of all the public libraries do have Internet connections. But most of that Internet connection is one connection on the reference librarian's desk. We find that only about 15 libraries in the State have World Wide Web technology with patron access, where the patrons can really come in and utilize the technology themselves.

The State Library has committed, they believe, about \$1 million to provide access to the Internet, one access site in every library. They plan to do that this year. We believe that is a good start, but, again, one access site to the Internet is not really going to provide our citizens with an information future.

In communities like Camden, Paterson, and Irvington, one access to the Internet per community -- they are going to have very little future in access at home -- is not going to bring our citizens the equal information future that we seek. In addition, how are we going to train those people, the people who are out of school, the people who do not have those benefits? How are we going to train them to get on the superhighway?

The State government in New Jersey has been looking at putting much more of their information into technology, putting it out there on the Internet. Certainly, the New Jersey Library Association applauds this. For example, starting on July 1, you just put your legislative information out on the Internet. It was a bill sponsored by Senator Bubba. Another critical piece of information now going out on the Internet, rather than in paper form, are the job information bulletins for the Department of Personnel.

Again, as an Association, the New Jersey Library Association cannot argue that using the Internet is the most effective and efficient way to get that information out there, but when over one-half of our libraries do not have access to the Internet, how are people going to get that? We used to be the primary distribution point of the paper job bulletins to the public. Thousands of people came to the libraries to get that. Where are they going to go now? Certainly, the Department of Personnel is very quick to point out

that you can get this access at the employment centers of each county. Well, virtually there is one employment center in a county, and they are open traditional hours from 9:00 to 5:00. How are people going to get that access when they have to work and are looking for other jobs? It is not going to be available to them.

It may be very easy for us who sit in Trenton to say, "You can go to these employment centers," but it is a far different thing when you are sitting at a reference desk in a public library and you are telling someone, "I know that information is available. I just can't get it for you." The same is true for virtually all the other kinds of information that are now most accessible on the Internet -- health information, job information, scholarship information. It is most effectively available there, and I think universal service means that people must have access to it.

Certainly, you heard this morning about the Texas initiative to find \$150 million. We also looked at the initiative, because we see that these are the states that are making that kind of a commitment. There is a bill currently that has just been proposed by Assemblywoman Farragher to put 50 cents per month on phone bills to provide a State telecommunications network. We applaud such initiatives. We would like to work with you to find a permanent funding mechanism so that we can provide these opportunities in all libraries in New Jersey.

In conclusion, I would like to say that there are tremendous benefits to the superhighway, but by coupling those benefits with the Federal initiative, only with strong State support will we actually be able to bring those benefits to every citizen in New Jersey.

Thank you.

SENATOR CIESLA: Thank you very much, Pat.

I just have one question. As you were testifying, it struck me that: Is the nature of the library services going to change from essentially providing access to written references to providing access to services that are provided through the telecommunications network? In other words, why maintain the duplicity associated with-- I don't know how many libraries there are in the State of New Jersey, but why shouldn't there be one repository of digital information where an individual would be able to have access through a computer network?

In other words, I am sure that there are many libraries that maintain the works of Chaucer and what not in New Jersey. Why not have that digitized so that everyone would have access to it at one location, as opposed to having it in, perhaps, hundreds of locations now?

MS. TUMULTY: Well, I think your access points are what you have to be looking at. I mean, certainly there is Chaucer. probably maybe the best library to get it at is the British Museum. But if I cannot get to Britain, I only want to be in Trenton, I need that access point to go from here to there.

SENATOR CIESLA: That is my question.

MS. TUMULTY: Right. Well, I think you are going to see that the access-- But that does not mean that local access points need to be limited. You are going to have to increase local access points. We are not going out and digitizing all the-- You know, every library, for example, is not going out and taking Britannica itself and digitizing it. What it is having to do--

SENATOR CIESLA: Shouldn't only one do it, Pat?

MS. TUMULTY: One does, but we all have to create the access points to that.

SENATOR CIESLA: Right.

MS. TUMULTY: That is the difference. It is only a tool. You are going to also look at information as a whole wide range of things. The Internet, certainly, is a tool, and it is an essential tool for information. But you need more points of access to that. What you are finding is that people are not going out and digitizing the Britannica over again. But I need 400 places, you know, in New Jersey to access it. So maybe I will access it through a phone booth, too, but I am also looking at the wide range of community services that have always been traditionally available at libraries. You are not going to teach a child how to read, I don't think, on a computer, necessarily. Good (indiscernible) is not going to be done on a laptop yet. There is another level of what community access needs. The Internet is a tool that provides information, and that is a tool that we want in all libraries.

SENATOR CIESLA: It is interesting. If I were a betting person, I would bet that the nature of libraries is going to change markedly--

MS. TUMULTY: Oh, I am sure it will.

SENATOR CIESLA: --in the immediate future.

MS. TUMULTY: I think the market is going to change. I do not think the need is going to change. I think the nature will change.

SENATOR CIESLA: I agree with that.

Thank you, Pat.

Senator Baer?

SENATOR BAER: Just one question: Do you have any very specific recommendations in terms of the definition of universal service? I know there are some things you addressed related to that, but do you have any, or will you have for us technical information as to how you would like that to be defined, in relation to libraries?

MS. TUMULTY: Yes. I did provide testimony, the American Library Association's recommendations for universal service, which they put forth to the FCC. But as I said to you, I think universal service, to be very effective, needs to be expanded beyond just rates. It looks to how you fund those community points of access. That is a broader definition than the FCC is looking at right now.

SENATOR BAER: Thank you.

SENATOR CIESLA: Thank you very much, Pat.

The last individual will be Lynn Nowak, New Jersey Cable Telecommunications Association.

LYNN NOWAK: Thank you very much, Chairman Ciesla and Senator Baer. Good afternoon.

SENATOR CIESLA: Good afternoon.

MS. NOWAK: I am Lynn Nowak, Director of Public Relations for the New Jersey Cable Telecommunications Association. This is David Breidinger, who is the Vice President of the Association, and also Director of Government Affairs for Comcast Corporation, the largest cable company in the State.

I will summarize my testimony, because you do have it there.

As you are looking at the Telecommunications Act and its potential impact on education, the Association would like to give you a brief overview of the cable industry's current involvement with schools and its ongoing commitment to education in the future.

Back in 1989, the national program called Cable in the Classroom was created. As part of that program, the cable industry dedicated itself to connecting every one of the nation's elementary, middle, and high schools to cable free of charge. These institutions receive high-quality commercial-free educational programs from cable and networks like the Discovery channel, the Learning channel, C-SPAN, and A&E. I do have a national total that the cable industry has devoted \$420 million to education through this program.

Here in New Jersey, over 2000 schools and libraries are connected to a cable network as part of Cable in the Classroom. This connection is most significant in the discussion of the delivery of advanced technology to schools, because the cable infrastructure is uniquely capable of delivering telecommunications services to the educational community in an efficient and cost-effective manner.

I think it was Senator Bubba who was discussing before about coaxial versus fiber. A real important point that we would like to make is that cable does use coaxial cable, but we also use fiber. Actually, the infrastructure of choice, right now, is a hybrid fiber-optic coaxial cable design. This technology is capable of providing two-way video, audio, and data communications for the educational community.

I would like to just briefly point out some of the educational applications that cable is providing today -- educational access channels. The

vast majority of school districts in this State have some ability to utilize the cable access channel. Actually, the cable industry has provided close to 100 schools and school districts with a dedicated access channel for their exclusive programming use. In many cases, cable has also provided or funded a studio, data and video interconnect. Around New Jersey, cable companies are working with educators to set up innovative projects which bring the world to students via computers and television. One that is worth pointing out is Garden State Cable in Cherry Hill, their CamNet project, which connects Camden County schools directly to the Camden County Library resources, the Internet, and to databases worldwide.

In a minute, Dave is going to discuss a very exciting project called MercerNet that Comcast is working on. But first, I would like to let you know about an important nationwide initiative which was announced just last week by the National Cable Television Association. It is called Cable High-Speed Education Connection. It is new, comprehensive commitment to provide elementary and secondary schools across the country with basic high speed Internet access via cable modems free of charge.

As cable providers begin to introduce high-speed digital services over the next year, over 3000 schools in over 60 communities will receive free cable modems as part of this program. Here in New Jersey, Adelphia Cable Communications, based in Toms River, and Comcast Cablevision, based in Union Township, will be participating in the initiative as first-year communities. Within the next 12 months, both systems will provide free Internet access via cable modem to schools in Dover Township, served by Adelphia, and in parts of Union and Essex Counties, served by Comcast.

Utilizing the cable high-capacity infrastructure, cable modems provide lightening fast digital access to the Internet at a rate of 10,000 kilobits per second -- hundreds of times faster than conventional telephone modems. To graphically illustrate what that means, information that would take an hour and a half to transfer over a typical phone modem line, takes only 18 seconds via a cable modem.

This high-speed education connection is just the latest step in the cable industry's ongoing commitment to use our advanced technology to enhance the quality of education nationally and here in New Jersey. We certainly do invite members of the Committee to experience firsthand all these different cable technologies at TKR's tech center in Piscataway, where you can really see both education and other applications.

Now I would like to turn it over to Dave to discuss MercerNet.

DAVID BREIDINGER: Thank you, Lynn.

Mr. Chairman, Senator Baer, you will be glad to know that my testimony is only an hour and a half, so I hope it will not be too long for you.

SENATOR CIESLA: Condense it on your modem to 18 seconds.

(laughter)

MR. BREIDINGER: I am going to do it at the speed of cable modem. How's that?

What I want to do today is not go through any of the written testimony -- you have that in your packet -- but I do want to talk a little bit about some of the questions that came up today, as well as some of the things that I think are very important, and talk specifically about a couple of projects

that have come about because of the Telecommunications Act and because of competition.

As we see more competition within the telecommunications marketplace -- as was mentioned by AT&T a little earlier -- I think you are going to see the deployment of new technologies to communities. You are going to see state-of-the-art technologies that did not exist before that will be able to bring services -- high-speed data modem services, Internet connectivity, interconnection of high-speed data service between schools, and, also, ITV classrooms in those schools. I think that is what we are going to see in New Jersey, and we are going to see it happen very quickly.

We are participating in the hearings, along with the other industries that were mentioned this morning, at the Board of Public Utilities and we will be very much involved as an industry, hoping to get our piece of the telecommunications business in New Jersey, not only the cable television business -- we are not just cable anymore, or television anymore -- but also data business, Internet access business, as well as telephony business.

What I want to talk about today are some of the exciting things that cable operators are doing, specifically some of the things that Comcast is doing. I am just going to highlight a couple of those.

One is a project called Lightspan Partnership, which we have launched in some of our urban areas -- one here in Trenton, one in Jersey City. These are pilot projects right now, but we hope to expand on them. What it is, is that technology allows us to put a set-top device, similar to a cable box, within the classroom and also in the student's home. We can take those urban centers, where students may not have computers in their homes, and we can

take their cable television signal, which many of them do have, most of them have, and take that box and make it interactive, so that they can have devices in the home where the teacher can send them home that night and they can use that interactive technology for additional learning at home. We think that is very important. It is also very affordable, and it is something that we will be deploying. You will be hearing a lot more about it.

We also have connectivity with the Liberty Science Center. About a year and a half ago, we provided connections within the Science Center so that they can originate from a number of different rooms programming out over our network. We have a network now throughout New Jersey that connects 1.2 million cable households in New Jersey and the Delaware Valley area, that being the Philadelphia metro area. I don't know that there is any other cable company in the country that can state that.

So I think it is important for the Committee to understand that when we look at the future, we cannot look at giving one company -- a Bell Atlantic or AT&T or anyone else -- the exclusive to doing these types of services to education, to libraries, to the home, because there are other entities, including cable television company, that do have networks that span the State. And we do have state-of-the-art networks. One of the things that competition did, and the Telecommunications Act in particular, as it was moving forward, was begin to get all of us investing in our infrastructure so that we could be prepared for this competition we knew was coming, and we did not wait until the President signed the bill in order to invest. We have been investing in our infrastructure and deploying fiber throughout New Jersey for many, many

years. The incentive there was to retain our customer base and to be able to build on that as we got into other services.

One of the exciting projects that we have going on right now that is going to premiere in the next month and a half, is our MercerNet project. This is an interconnection of 13 schools within Mercer County, all of the high schools in all of the districts, which will have high-speed data connectivity, as well as ITV classrooms and high-speed Internet access via cable modems. So this is going to be one of the, if not the most, state-of-the art educational networks in the country when it is completed.

Today, we certainly invite you, as a Committee, to come by and see this, since it is right in Trenton. Come to Trenton High, Lawrence, Princeton, or any of the schools. We would like to have you stop by sometime in September, possibly, to see what we are doing, because it is going to change the way our students are educated here in Mercer County.

One of the exciting things about that is that it is a model and it can be duplicated. It is cost effective, and also it truly shows how you can take Princeton High School, which has a number of resources that the other districts such as Trenton, Ewing, and others do not have, and you can then share those resources, whether they be teaching resources, whether they be resources for training for Internet access, whatever it might be. I think that is one of the exciting things that we are going to show in this particular model.

I want to talk a little bit, too, about the interconnection issue. Right now, we are in discussions with Bell Atlantic. We have asked them-- We have approached them and asked them if they would consider interconnecting our educational network to theirs. We think it is important

that networks be interconnected, regardless of who the company or the provider is of those networks. So we are in discussions with them. We think it can be done. We think it can be done in a cost-effective manner, and we hope to be able to participate with our network and their ITV networks across the State as well.

We also think, once again, that competition is the way that we ought to be looking at how we serve our communities in the future and how we deploy these services. As you know, the cable industry was built with private money. There were no public funds. The cable industry not only built a state-of-the-art network now with broadband capacity of the fiber and coax we have in place -- which is second to none out there -- we can do this high-speed data-type connectivity, but we know that by using the entrepreneurial approach, moving forward as we begin to interconnect our own cable networks together with the other cable providers, that we will be able to provide a lot of these services to our community in a cost-effective manner. At the same time, you will see the AT&Ts and the other facility-based company, Bell Atlantic, begin to provide those services as well, because there will be competition to provide those services in education, in the libraries, and in the home.

With that, I would like to close and just say that the cable television industry here in New Jersey is proud of our accomplishments. We have been providing, as Lynn said, free service to schools for years -- many, many years -- and often we do not get enough credit for what we do, because we do not tell people what we are doing. We need to do more of that, and we know it. But we would like to build on that and, in the future, I think you will

see great things coming from our industry, particularly in the area of education and new technologies.

Thank you very much.

SENATOR CIESLA: Thank you very much for your testimony. We appreciate your sharing with us. I am certain, as Senator Bubba said, that your industry has a role to play -- a very important role to play -- as we go forward.

Senator Baer, thank you for taking the time to be with us. Do you have any final remarks?

SENATOR BAER: No, I don't think so.

SENATOR CIESLA: Thank you very much, and thank you, ladies and gentlemen.

(HEARING CONCLUDED)