

The Iowa Communications Network: The Policy Implications of Publicly Funded Infrastructure

Dom Caristi, Ph.D., Assistant Professor
Journalism & Mass Communication
Iowa State University

**Presented at the Twenty-Fifth Annual
Telecommunications Policy Research Conference
September 29, 1997**

ABSTRACT

The Iowa Communications Network is a statewide fiber backbone, designed primarily for distance education, but which more than 80 percent of the traffic is something other than distance ed. The network also handles long distance telephone traffic for state government, and administrative meetings are conducted using the network's two-way full-motion video capabilities. State law prohibits use by private parties, but some private users have been able to have access by partnering with educational institutions. Those institutions can reserve use of the network without justifying the purpose or explaining the nature of the use.

As one might expect, Iowa private telephone companies are extremely frustrated with the situation. Some estimates are that the state has invested a half-billion dollars in the system. Telcos contend that not only does the system rob them of revenues, but they contend that it takes potential customers away by allowing Internet access to people who are not directly connected to the ICN. Students and faculty at state universities and community colleges have had dial-up access for quite some time, and it has begun spreading to elementary and secondary schools. Earlier this year the governor vetoed a bill which would have prevented dial-up Internet access over the ICN.

INTRODUCTION

The Iowa Communications Network is a statewide, fiber optic network with at least one point of presence (POP) in every one of Iowa's 99 counties. Phased construction began on the ICN in 1991, after two previous Requests for Proposals by the state were rejected.¹ In less than three years, the backbone was complete and there were 105 sites online. At this writing, there are more than 430 sites online and more are planned for completion by 1999.² Use of the network continues to grow rapidly. More than 106,000 hours of video were transmitted over the network in fiscal year 1996, and the prediction is that the number will be more than twice that for fiscal year 1997. Estimates of the exact amount spent by the state on constructing the network vary depending on how costs are allocated, but figures as high as \$500 million are not considered to be unreasonable.³

The ICN has as its primary mission distance education. The network provides a two-way, audio/video connection between POPs, allowing educators to reach multiple classrooms simultaneously. The vision for the network has always been that it would allow rural schools to have access to curricula that they otherwise would not have. While a small school district might not be able to afford a foreign language instructor, schools with ICN classrooms might be able to have their students sit in on foreign language classes taught by instructors in larger districts. Even larger districts which could afford foreign language instruction might be able to offer a greater variety of languages by "sharing" their instructors. In fact, the state has touted this possibility as "the great equalizer."⁴

¹The first RFP in 1987 was awarded but later challenged and rejected. The second, in 1990, was rejected by the state because the bids were too high.

²Iowa Communications Network, August 15, 1997.

³Remarks by Iowa State Senator Michael Gronstal and State Representative Brent Siegrist at the Iowa/Nebraska Cable Convention, Council Bluffs, Iowa, July 17, 1997.

⁴Iowa Communications Network, August 15, 1997.

While distance education is its primary purpose, the ICN is involved in much more. The state has used the two-way video capabilities of the ICN to conduct parole interviews and hearings, saving travel time and expense. The state conducts various public hearings using the network, using both the POPs located at schools across the state as well as the 18 sites operated by the state government. The network is frequently used for telemedicine, and hospitals operate an additional 18 POPs. The National Guard has 60 sites located at armories throughout the state, and even the federal government has been involved. The General Services Administration has committed some \$20 million to conducting pilot projects involving the Social Security Administration, Federal Court system, Veterans Administration and others.

There are limits to who can use the ICN. The system is open only to educational institutions (both public and private), state and federal agencies, public libraries, hospitals and physician clinics. City and county governments may not use the network.

The state has structured the ICN to serve rural Iowans. The Iowa Code requires that the network may not charge differentially based on the distance that signals must travel. Charges are based strictly on number of POPs on line and length of time connected.⁵ There is a different rate established for schools versus hospitals or state agencies, but within each category, charges are not distance sensitive.

The state sees the ICN as a tool for economic development. The Iowa Department of Economic Development touts the system in its attempts to draw businesses to the state, especially rural areas.⁶ Its promotional material advances the claim that even rural schools in Iowa have access to education previously available only to urban schools. The ICN operating rules state that uniform rates for all schools will "ensure that rural communities have access to

⁵Iowa Code Section 8D.

⁶*See, e.g.,* Hanley, "Small towns, big plans." TELEPHONY June 2, 1997 (division administrator of business development at the Iowa Department of Economic Development claiming the ICN exists for economic growth).

comparable services to the services provided in urban areas."⁷ As a user of the ICN, the IDED brings together entrepreneurs and prospective investors to further its economic development objectives.

Projections are for increased use of the system with decreasing costs. To be sure, operating costs continue to be significant (more than \$22 million for fiscal year 1998, including \$12 million for debt service) but direct cost to the state is expected to decline, thanks in large part to increasing revenue from federal projects and Internet use. Federal project initiatives added \$900,000 above expected revenues for 1997, and Internet fees resulted in \$43,000 more than budgeted.⁸ The state appropriation for fiscal year 1999 will be almost \$5 million less than 1998, achieved in part by efficiency but largely by increased revenue from users. In 1995, the state director of the ICN predicted that the system would be making money by 2001.⁹

The state of Iowa seems to have an ambivalence about the network. Cost overruns in early stages of construction caused significant debate among legislators about the system's value. Telephone companies contended they could provide the same services to the state without capital expense by the state. Legislators further debated whether the system could be completed with cheaper technology, such as copper wire, rather than fiber optics.¹⁰ Construction costs have been significant, but the savings provided to users have been welcomed. Legislators receive lots of praise from educators but an equal amount of criticism from the private sector.¹¹ The state auditor even called for a halt to the system's development at one point because basic administrative tasks, such as billing users,

⁷Iowa Code Section 8D.

⁸Iowa Telecommunications & Technology Commission Meeting Minutes, Johnston, Iowa, June 10, 1997.

⁹Yepsen, "Fiber-optic net's chief offers plan to finish it," DES MOINES REGISTER 12 (Feb. 16, 1995).

¹⁰"Coming soon to a school near you." ISEA COMMUNIQUE 1 (June 1995).

¹¹"The Wiring of Iowa," THE ECONOMIST 19 (July 15, 1995).

was not being properly handled.¹² Legislators who saw the network as visionary in the 1980s might now be willing to see the state sell off the system under the right conditions.¹³

Without question, the ICN has been able to provide a statewide system faster than would have been possible without public funding, and it has done so to more sites than would be the case with any system driven by market economics. Iowa schools pay only \$7.50 per hour of use for each point of presence. The estimated real cost is \$86. North Carolina's two-way video delivery system for distance education, a public-private partnership, had only installed 60 of its planned 106 points of presence by 1995. Costs charged to the school district were many times those charged of Iowa schools.¹⁴

Whether the ICN has been the best possible system, however, depends on one's perspective. The state has repeatedly promoted the system as the most advanced and thorough of any in the world. This has been vehemently contested. Some claim that the system's ability to only show one classroom at a time to many remote locations inhibits the distance learners' ability to form relationships with students and faculty at other sites. Other state systems provide monitors which show all on-line classrooms simultaneously. Further, the state's "push to talk" microphone system is cumbersome and intimidating to students and is not used by most other state interactive classrooms.¹⁵ Other states such as Missouri and Minnesota, which previously invested in infrastructure, have sold off all or part of their systems.¹⁶ California, Connecticut and Texas are all

¹²Yepsen, "Auditor urges slowdown on finishing fiber network," DES MOINES REGISTER 8 (Feb. 28, 1995).

¹³Shors, "Fiber-optic frenzy," DES MOINES BUSINESS RECORD 24 (June 16, 1997) (statement by Iowa House Majority Leader Brent Siegrist).

¹⁴Mollenkamp and Gray, "Potential sites balk at info highway," RALEIGH NEWS & OBSERVER 1 (Apr. 1, 1995).

¹⁵Donald D. Miller, Northwest Telephone Cooperative Association, Interview with the author, July 16, 1997.

¹⁶Egglely, "ICN's expansion is unfair, unwise." DES MOINES REGISTER 9 (July 22, 1997).

moving toward privatization for a number of telecommunications services. A county in Pennsylvania has awarded the nation's first contract for a privatized Enhanced 911 system.¹⁷

TELEPHONE COMPANY REACTION

As one might expect, telephone companies in Iowa have been less than ecstatic about the ICN. Many see its development as further intrusion by state government into what should be the purview of private providers. Even the ICN's executive director acknowledges the antipathy toward a state owned network "because everyone just says this belongs to the private sector, and the government should not be in it."¹⁸ Iowa has had a history of operating businesses traditionally operated by the private sector, including a commercial television station, liquor stores and trucking.¹⁹

While many telephone companies may have been only slightly disturbed when the ICN was initially discussed, the network's expansion and increased use have brought a corollary increase in the criticism.²⁰ As one industry spokesman stated, "The telephone industry's objection to the ICN lies in its continued expansion beyond its original mission and offering services that compete directly with the private sector."²¹ The Iowa Telecommunications Association, a trade association representing Iowa telcos, has never opposed the concept of a state network, although it prefers that the network be provided by the private sector, rather than a public entity.²² Many telephone companies may have been comfortable with state provision of two-way, interactive video, but fewer were pleased with

¹⁷Kao, "Initiatives push privatization envelope." GOVERNMENT TECHNOLOGY 1 (Sept. 1997).

¹⁸Lutterbeck, "Muni telecoms." INFRASTRUCTURE FINANCE 14 (Apr. 1997).

¹⁹King, "ICN study launches competition debate," DES MOINES BUSINESS RECORD 7 (June 12, 1995).

²⁰Shors, *supra* note 13.

²¹Egglely, *supra* note 16.

²²Interview with J. Kent Jerome, Executive Vice President, Iowa Telephone Association, August 18, 1997.

use of the ICN to carry telephone traffic by state agencies. The outcry against the ICN has dramatically increased since late-1995, when the ICN began to provide Internet access to authorized users.²³ In addition to the revenues lost from the schools themselves accessing the Internet, telephone companies are concerned about the further erosion of their prospective businesses because individuals access the Internet from their homes, using educational institutions as gateways. If teachers and students can get free Internet access from their homes via a school or university's local dial-up number, there is little incentive for those individuals to pay a fee to an Internet Service Provider (ISP). Many Iowa telephone companies are also ISPs.

This increasing animosity toward the ICN by private telephone companies has been evident to the state for several years. One of the primary conclusions of a 1995 study for the Iowa Utilities Board was that the "widespread unease about ICN within the industry does not relate to the [1995] activities or mandate of the network, but rather to the highly uncertain and ominous "potential" directions that ICN's further development could take."²⁴ The report found a "startling" degree of animosity, suspicion and resentment among all levels of the Iowa telecommunications industry, but especially among the smaller local exchange carriers.²⁵

In the most recent legislative session, the Iowa legislature passed a bill²⁶ which would have prohibited use of the ICN for Internet access via remote dial-up. Both the Iowa Telecommunications Association and the Iowa Cable and Telecommunications Association lobbied heavily for passage of the bill, only to have the governor (a strong proponent of the ICN) veto it.

²³Authorized users for Internet access via the ICN are the same as those for other services with the exception of hospitals and physician clinics.

²⁴Iowa Utilities Board, "Study of the impacts of the Iowa Communications Network upon the Iowa telecommunications industry." 1995.

²⁵*Id.*

²⁶Iowa Senate File 519, 1997 Legislative Session.

Since the veto of the bill, the Iowa Telecommunications and Technology Commission has proposed rule changes to its administrative rules, which would provide a clearer definition of who may access the Internet via the ICN and under what circumstances. The ITTC proposed rules would allow for some remote, dial-up access, but not for every authorized ICN user. Hospitals and clinics would not be authorized for remote dial up, but the most notable exclusion is that the proposed rules would not allow remote dial up access for any elementary or secondary schools. The Iowa Telecommunications Association obviously favors restrictions which would prohibit any sort of remote, dial-up Internet access via the ICN. The ITA contends that remote dial-up access is not authorized by Iowa Code and therefore should be prohibited. "The ITA specifically objects to all members of the general assembly, state and federal employees, and students of community colleges and institutions of higher education eligible for tuition grants being provided with dial-up access through the ICN to the Internet or its successors from remote locations or sites not operated by the authorized user."²⁷

Survey²⁸

Earlier this year, Iowa telephone company managers were surveyed about a variety of issues facing their industry.²⁹ When asked, "What one factor could hinder your company's ability to continue to upgrade your system and services you offer your customers," 32.4 percent made statements implying the ICN would create problems.³⁰ Nearly one-third of respondents saw the ICN as

²⁷Comments of the Iowa Telecommunications Association re: Notice of Intended Action to Amend 751 Iowa Administrative Code, filed August 19, 1997.

²⁸This research was funded in part by the Rural Development Initiative of the Iowa Agriculture and Home Economics Experiment Station, College of Agriculture, Iowa State University.

²⁹94.4 percent of Iowa telephone company managers were interviewed by telephone during June, 1997. There are 153 Iowa telephone companies, but only 144 different managers because some manage more than one system.

³⁰20 percent specifically named the ICN, while the other 12 percent answered

the one factor which could inhibit their development, without any prompting by the interviewer. At that point in the interview, the ICN had not been mentioned or referred to, directly or indirectly. No other factor had a greater response, including the prospects of a competitive provider, lack of prospective customers or possible changes resulting from the Telecommunications Act of 1996.

Private telephone companies have previously offered to purchase the state-owned network, and telephone company managers believe that the state should sell it. Two-thirds of the respondents surveyed believe the appropriate action for the state to take is to sell the network, while only 5.1 percent favor the current system. No respondent favored the possibility that the state would continue to operate the network and lease excess capacity to other users.

Simply put, more than 72 percent of Iowa telephone companies believe that the state should not be involved in developing telecommunications infrastructure. Just under 20 percent of the managers believe that the state should be "a little" involved in infrastructure development.

INTERNET SERVICE PROVIDER REACTION

Internet Service Providers (ISPs) in Iowa are extremely bothered by the prospect of state-funded infrastructure to provide a service which they provide commercially. Iowa ISPs formed an association in 1997 in large part to lobby the state legislature for restrictions on the ICN. The group was active in the effort to pass legislation restricting dial up access to the Internet via the ICN. The association has asserted that dial up access is a "threat to the survival" of Iowa ISPs.³¹ As one representative of an on line service

generally, such as "government entry into private enterprise," "competition from the state" or "unfair competition."

³¹Couch, "Local Internet set organizes for its own good." DES MOINES REGISTER, Business Page 3 (July 28, 1997).

put it, "The potential exists for the state to put all ISPs out of business."³²

The dichotomy between the state perspective and that of ISPs is that the state claims that without the ICN, private providers will not provide services in rural communities where it would not be cost effective. Chief operating officer of the ICN, Tommy Thompson, contends that 30 percent of the state is not served by an ISP, and that "no business will go and provide Internet access to these rural areas."³³ No comprehensive data exists to support or refute the 30 percent figure. The 1997 legislature charged the Iowa Utilities Commission with forming a coalition to provide Internet service to parts of Iowa which do not have "non-toll dial up" access to the Internet. In early 1998, the IUB ought to have data identifying this area.

The entire question of whether Internet service is available to rural areas appears to be a "chicken-and-egg" type of argument. The state asserts that private providers will not offer Internet connections in rural communities because it is not profitable. ISPs assert that in rural communities, a large percentage of the potential customers will be lost to them because they will be able to get "free" access to the Internet via the ICN. Teachers, librarians and perhaps families of students will be able to access the Internet by dialing into the local ICN point of presence. In small communities, that may account for the majority of residents: certainly the majority of those seeking Internet access.

STATE PERSPECTIVE

The Iowa Telecommunications and Technology Commission, the state agency charged with administering the ICN, contends that the complaints by telephone companies are without merit. A decade ago, the state issued its Request For Proposals, allowing vendors to propose to construct all or part of the system or to lease capacity to the state over existing fiber optic lines. In response, the state

³²Shors, *supra* note 13.

³³*Id.*

received only two proposals, both of which were for construction of a statewide system. According to the ITTC, "The State became the owner of the ICN by default."³⁴

In fact, several state telephone companies are involved as service providers to the ICN. U.S. West has been a partner in the installation of 476 Permanent Virtual Circuits on the network, more than 80 percent of the total 563 PVCs installed since mid-1994.³⁵ The ICN leases DS-3 lines³⁶ from MCI, which is not a local telephone company in Iowa but has a significant presence as a long distance provider.

During the 1995 legislative session, the Iowa legislature ordered the ITTC to conduct studies into the possibility of selling the ICN. Less than four months later, the ITTC's report to the legislature recommended continued operation of the ICN as it had been.³⁷ Their rejection of any change in the system was based on eight reasons:

- It would destroy the tax exempt status and cost more in debt interest and taxes;
- The system is still unfinished;
- As an incomplete system, its full value is still unknown;

³⁴ICN Homepage, <http://www.icn.state.ia.us>. As might be expected, this is not the perspective of private telephone companies. A Task Force reported to the ITTC in its 1995 report, "Telephone companies felt alienated from the Part I and II bidding process for several reasons." Some even contend "the ICN was passed as a back-room, dark-hours-of-the-morning 'deal' with no real public debate. Key players who pushed the project through ended up as paid consultants or vendors to the project." Egglely, *supra* note 15. See also Lutterbeck, *supra* note 18 (the Iowa legislature created the ICN by "slip[ping] a provision into a conference committee report").

³⁵A PVC is the means by which a remote location connects to a frame relay switch. This allows more thorough monitoring of circuits.

³⁶DS-3 lines are high capacity lines which allow full motion video over the system. Many long distance carriers use DS-3 lines for heavy-traffic areas.

³⁷Report to the Iowa Legislature House File 461 Task Force from the Iowa Telecommunications & Technology Commission, October 30, 1995.

- The maintenance contract will continue regardless of ownership;
- The federal regulatory landscape is changing;
- Options (sale or lease) will be possible at a later date;
- Technology and capacity needs will be better known once the system is fully deployed;
- If criticism is that the network is under-inclusive, the legislature has the authority to add authorized users.³⁸

Without exception, every one of the reasons given is not a justification for a state-owned fiber optic communication system, but rather an assertion that the state of Iowa should not in 1995 sell the system that it has developed. The executive director of the ICN has stated that the network "will eventually" be sold to the private sector.³⁹ Even Governor Terry Branstad, one of the ICN's strongest proponents, has implied that privatization should eventually occur.⁴⁰ In fact, the recommendations further suggest that reexamination of the network ownership issue will be appropriate in the coming year. This is confusing, however, because the very same report states that the buildout will not be complete until 1999, and the tax liability will continue for any sale prior to 2002. One wonder whether a reexamination prior to 2002 would result in any different conclusion.

Of the eight reasons given, only the first (regarding tax liability) seems to have any merit. To be sure the system is not fully deployed, but this should not prevent its sale if the state desires to sell the property. Likewise, if the state must still keep its maintenance obligations with contractors, that could be calculated into the selling price, as is done with any other real property.

Despite the ITTC recommendations that the system be continued as it is, the state legislature attached a requirement to a bill passed in the 1997 legislative session that establishes a committee to study issues relating to privatizing the management of

³⁸*Id.*

³⁹Lutterbeck, *supra* note 18.

⁴⁰Elstrom, "A collision on the Iowa I-way." BUSINESS WEEK 44 (May 19, 1997).

the ICN.⁴¹ While this action is far from a legislative mandate to sell the ICN to private providers, it is also not a ringing endorsement for the action of the ITTC or the recommendations of the task force to study the appropriateness of state ownership of the ICN. Private management of a state-owned system was one of the alternatives examined but not recommended by the 1995 task force.

POLICING THE SYSTEM

Because the system was created with education as its highest priority, educational uses are charged the lowest rate. Determination of whether a use is educational or not, however, is left strictly to the integrity of the user. ICN rules clearly state that the purpose of the event determines the charge, not the location of the origination or receiving sites. Thus, if an authorized user, such as a hospital, conducts a consultation using the ICN's video capability, it is charged one rate. But if the same hospital uses the same video capability for an educational use rather than a consultation, the charge would be lower.

Not only can the rate charged be manipulated by an unscrupulous user, but unauthorized users can actually gain access to the system by partnering with authorized users. Of course this requires the complicity of an authorized user, but this is not insurmountable. Because the state empowers each authorized user with determining the appropriateness of a use, and because no use is monitored for appropriate content, partnerships could be formed (some would suggest that they have been formed) to circumvent the system. For example, a private, commercial enterprise might be able to use the ICN to communicate to a number of remote locations by convincing a local community college professor to conduct an educational session. In this hypothetical, the college professor might agree to train employees at remote locations. If the commercial enterprise had tried to lease the ICN itself to conduct these sessions it would be prohibited from doing so because it is not an authorized user. The community college, however, could conduct virtually the

⁴¹Iowa Legislature House File 730, signed by the governor May 23, 1997.

same training sessions without any administrative difficulty whatsoever.

To take the hypothetical one step further, what if a manager of the commercial enterprise were to attend the training sessions, and ask to use the first five minutes of each "class" period to make announcements of interest to those "students" in the class. It is not hard to imagine the slippery slope which results from such perfectly legitimate partnerships.

Ironically, however, no one but the user would ever know the purpose of the use. To allay teachers' fears of "big brother" monitoring their classes without the teachers being aware, the ICN's operating rules strictly prohibit monitoring the content of transmissions on the network. At least in theory, there is a provision against inappropriate use of the network. Section 10.2 of the rules specifically provide for written warning, suspension, probation or revocation of authorization to use the network by any user who misrepresents the use of the network, allows an inappropriate use of the network or in any other way violates the rules.⁴² Because there is absolutely no way of monitoring this requirement, it should come as no surprise that in the three years of system operation, no one has ever been warned, suspended, placed on probation or had his/her authorization revoked under the rules of Chapter 10.2.⁴³

ICN FOR DISTANCE EDUCATION

The state promotes the ICN as a distance education system and continues to assert that the network helps to decrease the gap between the information poor and information rich schools. This is based on the assumption that rural schools are somehow information poor, and schools in larger population areas are somehow information rich. As previously stated, the ICN model often used is that foreign language education can be provided to schools which

⁴²Telecommunications and Technology Commission of Iowa Administrative Rules, Chapter 10.2, as amended (1997).

⁴³Information provided by Ingrid Johnson, ICN Outreach Coordinator, Aug. 25, 1997.

previously could not afford a foreign language instructor because there were not enough students in a small school to fill that instructor's day. Even at larger schools which can afford foreign language teachers, a greater variety of languages can be offered by offering courses provided by other schools.⁴⁴

While this scenario may in fact be the case for schools which have a POP, it is highly unlikely for other schools. As a practical matter, the logistics of providing distance education to a student at a non-ICN school virtually preclude participation. Imagine the student who wants to take a Russian class. If Russian is available over the ICN but the student's school has no POP, the student must commute to a nearby school with a POP. Even given a relatively short commute, a student would have to miss a portion of a class period immediately before and after the Russian class. The one class period now impacts three. This does not even consider the possible differences in class schedule between the student's school, the school with the nearby POP, and the schedule of the school offering the course. It also ignores the reality of transporting the student, and whether that becomes the responsibility of the student or the school district, and at whose expense.

The result is not an elimination of the information "haves" and "have nots" but rather a decentralization. If one accepts the assumption that the ICN provides classes which would be otherwise unavailable to some students, then the result is that those students at schools with ICN POPs will have a greater variety of courses available to them that students at schools without a POP. The state continues to add POPs, but the design is never to extend ICN connections to every school in the state. Extending the ICN to every school district is noble, but still creates a group of unserved students.

⁴⁴See, e.g., Caristi, "The Iowa Communications Network: A policy perspective." 48 ANN. REV. OF COM. 679 (1995)

MAKING THE ICN VIABLE

The irony of the state-owned system is that the more efficient the system becomes (defined as cost effective), the stronger the argument becomes that the state should not be involved. State provision of two-way video for distance education for rural school districts has not been economically viable. If the state of Iowa provided only this service via the ICN, it could never "break even." It would not be considered a threat by telcos or ISPs.

In order for the ICN to be able to afford to provide low-cost distance education, it has expanded to provide other services statewide. The ICN carries long distance telephone calls, two-way video for non-education providers which in many other states are carried by commercial providers (most notably telemedicine), electronic data transfer between government agencies and, of course, Internet access. It is this expansion of services which has been so hotly contested by private companies.

Iowa private telecommunications providers argue that state provided services, supported by state revenues, make it impossible for private sector companies to compete, thus discouraging capital investment by private telecommunications companies.⁴⁵ If this is true, the system which the state touts as encouraging economic development in rural communities has exactly the opposite effect on rural telecommunications companies. GTE dropped plans to invest \$5 million in a project to expand Internet access in Iowa, citing the ICN as the cause.⁴⁶ Midwest Communications, Inc., of Dubuque, Iowa, contends that the ICN has taken much of the private business that firms such as theirs would have otherwise gotten in small cities.⁴⁷

In an effort to increase funding available to the state to operate the network, Iowa is working on an application as a service provider to receive payments from the Universal Service Fund. Schools nationwide will be applying for funds to pay their local

⁴⁵Egglely, *supra* note 16.

⁴⁶Elstrom, *supra* note 40.

⁴⁷Bragg, "Iowa Communications Network suffers growing pains," DUBUQUE TELEGRAPH HERALD A-10 (Apr. 1, 1997).

telecommunications providers. The Universal Service Fund is expected to produce \$2.25 billion annually.⁴⁸ The ITTC contends that it is entitled to payments from the fund for the service it provides to rural schools and libraries.⁴⁹ What's more, it further contends that the amount of federal funding should be based on the full cost of the services provided and not just based on the amount charged to the ICN users. In other words, if the state charges a rural school only \$7.50 to connect to full motion two-way video communication, but the state's real cost of providing that link is \$86 per hour, the federal funding ought to be based on the higher figure.

The United States Telephone Association contends that the ITTC is not entitled to Universal Service Fund disbursements because the ITTC does not fit the definition of "telecommunications carrier" as established by the Telecommunications Act.⁵⁰ The Act defines telecommunications providers as those who offer telecommunications for a fee directly to the public, or to such classes of users as to be effectively available to the public, regardless of the facilities used.⁵¹ The USTA contends that the ICN is not available to the public and therefore not eligible for universal service funding.

Should the ITTC succeed in its request, it will create an "interesting" fee structure for the ICN. Rural schools which receive federal support for their ICN connections would actually have to pay more for their connections than schools in urban areas which receive no universal service funding. Of course the schools themselves would not be expected to pay any more for their connections, but the state would actually collect more revenue for connecting to a rural school, for which the ICN would receive a universal service subsidy. The state contends that it does have "significant advantages" in providing

⁴⁸Brittain, "What you need to know: New discounts cut the toll for diving the information superhighway." T.H.E. JOURNAL 52 (Sept. 1997).

⁴⁹Iowa Telecommunications and Technology Commission, Federal Communications Commission Docket 96-45 (1997).

⁵⁰United States Telephone Association, Federal Communications Commission Docket 96-45 (1997).

⁵¹47 U.S.C. Sec. 153.

advanced telecommunications services to its customers but contends that its advantage stems from "its commitment to providing advanced services throughout Iowa and from its commitment to recover only the cost of those services."⁵² In reality, the state provides a form of cross-subsidization not available to other providers who cannot tap into the tax base to subsidize the provision of telecommunications services. Iowa private telephone companies would find it laughable that the state contends the ICN needs to be eligible for federal funding to give "Iowa schools, libraries and rural health care institutions the opportunity to choose how they obtain these services *on a level playing field*."⁵³

What's more, the ITTC is also contending that it should not be subjected to paying anything into the Universal Service Fund.⁵⁴ The state does not make the claim that the law requires that they be exempted from paying but rather contends that non-profit entities should be exempted because this will best serve the purposes of the universal service philosophy. They contend that Iowa taxpayers would be required to make up any charges they must pay, instead of rate payers, as is the case with commercial telecommunications carriers. They also assert that as both a recipient of Universal Service Funds and payer into the system, there would be no benefit to either the fund or the state.

The USTA asserts that the Telecommunications Act is explicit in its requirement that all telecommunications service providers be required to contribute to the Universal Service Fund.⁵⁵ Their assertion is based on two arguments: legislative history and purpose of universal service. The legislative history provides evidence that Congress had the opportunity to provide exemptions to the universal fund requirement⁵⁶ but did not do so for non-profit telecommunications providers. Further, the philosophy of universal

⁵²Iowa Telecommunications and Technology Commission, *supra* note 49.

⁵³*Id.* at 5 (emphasis added).

⁵⁴*Id.* at 7.

⁵⁵United States Telephone Association, *supra* note 50, at 4.

⁵⁶In fact there are some exemptions outlined. *See* 47 USC 254.

service is that all providers benefit from a public telecommunications network which is ubiquitous. As such, all beneficiaries ought to be expected to support the universal service goal.

The fact also remains that there will be a number of telecommunications providers who will both pay into the Universal Service Fund and receive payments from it. Telephone companies which provide services in both rural and urban areas are quite likely to pay into the fund for their urban exchanges while receiving funding for their rural exchanges. Public or private ownership seems irrelevant to that point.

SUMMARY

The state of Iowa has created an extensive high speed, broadband network for use by some, but not all, government agencies in Iowa. An estimated \$500 million of state funds have been used for just the construction. The state provides tens of millions of dollars annually in operating costs. This has resulted in a number of ironies:

*In order for the ICN to cost Iowa taxpayers less, it must become more efficient by offering more services and using more of the available bandwidth. Each new use of the ICN encroaches on what has traditionally been provided by private telecommunications providers.

*If the ICN receives funding from the Universal Service Fund at its requested levels, the state will be charging more money for rural connections than it does for urban ones, convoluting the intent of Universal Service Funding.

*The network may only be used for certain "acceptable" purposes, but no one has even been disciplined for an inappropriate use, nor is anyone ever likely to be given that state statute prohibits the monitoring of content.

*The state touts the network as contributing to rural development, but telecommunications providers in Iowa claim that the ICN is discouraging them from investing in their own infrastructure. Some even fear they will be driven out of business.

*The state had hoped to eliminate the information "haves" and "have nots" by making a variety of educational opportunities available to schools statewide. What has happened is that the "haves" and "have nots" are now decentralized. Since not every school is connected, those which are not are disfavored.

IOWA TELEPHONE COMPANY MANAGERS SURVEY Selected Questions

There is an ongoing debate whether the State of Iowa should continue to own and operate the ICN fiber optic network, or whether it should be sold or leased to private companies. Which one of the following options do you prefer?

| Value Label | Value | Frequency | Percent | Valid Percent | Cum Percent |
|----------------------|-------|---------------|---------|---------------|-------------|
| State owns and opera | 1 | 7 | 5.1 | 5.1 | 5.1 |
| State owns and opera | 2 | 14 | 10.3 | 10.3 | 15.4 |
| State sells the netw | 4 | 91 | 66.9 | 66.9 | 82.4 |
| Other | 5 | 19 | 14.0 | 14.0 | 96.3 |
| DON'T KNOW | 8 | 5 | 3.7 | 3.7 | 100.0 |
| | | ----- | ----- | ----- | |
| | Total | 136 | 100.0 | 100.0 | |
| Valid cases | 136 | Missing cases | 0 | | |

In your opinion, how involved should state government be in developing the telecommunications infrastructure, such as the ICN? Would you say...

| Value Label | Value | Frequency | Percent | Valid Percent | Cum Percent |
|--------------|-------|---------------|---------|---------------|-------------|
| A lot | 1 | 3 | 2.2 | 2.2 | 2.2 |
| Some | 2 | 7 | 5.1 | 5.1 | 7.4 |
| A little, or | 3 | 27 | 19.9 | 19.9 | 27.2 |
| Not at all? | 4 | 98 | 72.1 | 72.1 | 99.3 |
| DON'T KNOW | 8 | 1 | .7 | .7 | 100.0 |
| | | ----- | ----- | ----- | |
| | Total | 136 | 100.0 | 100.0 | |
| Valid cases | 136 | Missing cases | 0 | | |

What one factor could hinder your company's ability to continue to upgrade your system and services you offer your customers?

Competitive environment
 State continuing to expand the ICN
 Not enough request for services/not enough potential customers
 All the complications now in the industry-other companies can come in and use our company at a reduced cost and we have to maintain the company at a reduced cost to them
 Nothing that will hinder us at this point
 The downfall of US West
 Size--we are small
 Size- we are remote off Montezuma and we get our services from them- if forced to make an investment we could not do it- independent companies will get a smaller chunk of the pie
 Money
 Competition
 Loss in excess revenue
 Negative impact of current regulations
 State getting involved through the ICN
 Competitive carrier entering our exchange
 Unfair discounts mandated by the FCC and Iowa Utilities Board
 Erosion of customer base
 Unequal competition
 The Telecommunications Act of 1996/it allows other local services to use our equipment and facilities
 Federal Communications regulations changes
 Financing
 ICN stop stealing the gravy!
 The state getting into the private sector with business- ICN
 Settlements-new telecommunication act uncertainty and changes of rate
 Competition will make it harder to offer new items that do not have a lot of usage
 Competition
 ICN
 Lack of customer demand
 The competition itself could
 Development of ICN
 State interference with the ICN. Toll carriers charge access charge
 Funds
 Government moving into private enterprise
 Elimination of access rates
 Demand and growth
 Financing
 Loss for revenues
 Regulation that would not be in the best interests of the company/we cannot compete against the ICN
 Depending on the competition
 Money - financing
 Dramatic change in the access environment
 Loss of revenue due to ICN
 State competition
 Competition with the State of Iowa/ICN

Financing

Government regulations

Government regulations

Competition in the local loop

Telecommunications act and with FCC will handicap and limit us -competition is not on a level playing field -will impact the local rate base

Board decision

Impact of competition

Money/regulatory and legislative actions that impact our revenues

Competition from the state

Access revenue

The continuing spread of the ICN network if they offer more service than they have said what they planned

Unequal competition

Source of revenue would be = competition in the local loop

New deregulation and the competition as well as competing with the state of IA - also offer internet services

Competition and the toll arena- loss of customers

Subscriber needs

Unfair competition

Further development of the ICN network

State subsidized competition

From the state itself that is taking over part of the telephone business

Loss of customers through competition

Fall access charges

Dreaded revenue/financing may get difficult

Loss of operating revenue

Not aware of all competition coming in

FCC

Loss of access revenue

Raise federal line access charge

ATT and McCloud - Local competition

How the telecommunications act cuts customers and revenue

Tough /loose competition

Public demand whatever the customer wants

Competition with the state-ICN

Competition-we are so small and have only 3 sources with high volume if another carrier came in and took those we would be in trouble

ICN

Nothing would- serve the customer

Competitor taking just the best customers

The unbundling

Access drops subsidies

State getting their hands deeper in to the telephone communications

The ICN network

Loss of revenue

Competition form the state ICN

Competition form the state of Iowa from ICN

Competition and the state's network

It would be competition by taxed entities such as the state and government

State involvement and competition

It would depend on the available money and customer demand

Continue growth of the IC with money of the taxpayer

Growth of the town/small town with elderly people

Our size and capital required to offer the services
ICN
Access and universal reform will make a difference
Unfair competition come in
Rural subsidies
The expense in the area not able to recover our investment
The ICN
Telecommunications act of 1997
THE ICN
State's involvement
I have a concern- the ICN is state subsidized and I can't compete with that;
I may compete with my own tax dollars
State of IOWA/ICN
Increased competition from ICN and other CLEC
Unfair competition
Competition
REC building telecommunications services in the area
Loss of revenues
Lack of financing
Access rates
Competition
ICN on the internet site
Limited market and potential
Unfair competition from regulations of costs to competitor raid our customers govt. and
state as a competitors
Further expansion of ICN is a major factor moving in on our customer base we won't be
able to upgrade and offer services to our customers
Local competition
The State of IOWA
Competition
ICN competing with private industry
Competition - if I have to sell services to main users at a cheaper price than I have to
pay for, it doesn't work for me
State of IA being a competitor in the telecommunications business
Other companies coming in to provide service
Inappropriate legislation- govt. involvement in the industry
Loss of revenue
New legislative issues

What state regulation is might hinder your company's ability to continue to upgrade?

Depreciation schedules

How the competition is being regulated

Telecommunication Act of 1996

ICN video

Tax level

ICN

Only the fact that the state is in the communications business-the ICN

The ICN is the biggest concern- state employees

Unfair competition with the ICN

ICN

Use of the ICN/cuts into the private sector

Unknowns of the ICN

ICN

ICN will hinder our growth

Confusion of telecommunication act of 1996

ICN getting a bit overgrown--state competing with corporations

Deregulation

The way we are regulated, IUB reviews all expenses and income-requirement for loop resale at below cost- a major problem not carry a signal across a state boundary

ICN

Utilities Board

ICN and the new Telecommunications Act

Pending case on quality of service- we have invested in our equipment our customers have received the benefits sooner that US West customers

Rural exemption with other companies coming in--local competitors effect revenue, universal service, and access reform

ICN biggest threat to small companies