Approved: February 14, 2000 Carl Dean Holmes
Date

MINUTES OF THE HOUSE COMMITTEE ON UTILITIES.

The meeting was called to order by Chairman Carl D. Holmes at 9:08 a.m. on February 2, 2000 in Room 522-S of the Capitol.

All members were present.

Committee staff present: Lynne Holt, Legislative Research Department
Mary Torrence, Revisor of Statutes
Jo Cook, Committee Secretary

Conferees appearing before the committee: Duane Johnson, State Library
Dale Dennis, Department of Education
Rob Hodges, Kansas Telecommunications Industry Assn.
Jay Allbaugh, Cox Communications

Others attending: See Attached Guest List

Chairman Holmes announced he had introduced a bill in Select Committee on Information Management that should come to our committee. The bill is a request to have the Kansas Corporation Commission to act as a clearing house for collecting information on fiber optic cable. Specifically to find out where cable is located and the highest speed it is capable of carrying. Chairman Holmes shared a copy of an article that appeared in the Tuesday, January 25, 2000 edition of the Topeka Capitol Journal entitled "Surfs Up in College Dorm Rooms"(Attachment 1). Also distributed to the committee was the annual KCC report "Report to the 2000 Kansas Legislature" (A copy is on file in the Legislative Research Department).

HB 2635 - State education technology network for schools

Chairman Holmes welcomed Lynne Holt of Legislative Research, who provided an overview of **HB 2635.** She explained it was very similar to **HB 2591**, on which the committee had been previously briefed, however, this bill does not include a reference to libraries.

Chairman Holmes introduced Duane Johnson, State Librarian, who spoke in support of **HB 2635** (Attachment 2). He stressed the importance and need for this bill, referred to as KAN-ED, and the need to include libraries, as outlined in **HB 2591**. Mr. Johnson explained that KAN-ED will equalize people's access to educational information and services, it will improve connectivity by replacing inadequate modem connections with broadband access, improve equalized access to scholarly information that will improve research for education and economic development, provide opportunities for training for use of the technology and information services and help people of all ages learn essential technology skills. He stated that KAN-ED is a necessary state infrastructure in this global information economy. Addressing the need to include libraries in this program, Mr. Johnson stated that the local library is 1) a rich source of education information to students and teachers, 2) a connection to the information network of all other libraries from which needed information is borrowed and shared, 3) a point of access to the state, national and global information network, 4) the inviting, non-threatening place where many adults receive their early training in computer and Internet research, 5) the university library for the student learning through distance education and 6) an essential partner assisting K through 80 education. Mr. Johnson also distributed copies of "KAN-ED: The Next Step Toward a Statewide Network for Schools, Libraries and State Agencies in Kansas" - a proposal to the Kansas Legislative Special Committee on Education, September 22, 1999 (Attachment 3).

Mr. Johnson responded to questions from Rep. Dahl, Rep. Vining, Rep. Alldritt, Rep. Toelkes, Rep. McClure and Rep. Holmes.

Mr. Dale Dennis, Deputy Commissioner of the Department of Education, spoke to the bill. Mr. Dennis stated that the Senate Ways and Means Sub-Committee had endorsed the Governors' proviso that the Department of Education receive e-rate funding with the rate to be determined in May 2000.

Mr. Dennis responded to questions from Rep. Krehbiel, Rep. Alldritt and Rep. McClure.

Mr. Rob Hodges, President of the Kansas Telecommunications Industry Association, appeared on behalf of the Association and the membership of the State Independent Telephone Association of Kansas (Attachment 4). Mr. Hodges stated that the members have concerns about the bill, but stop short of any opposition. The concerns stated were that KAN-ED could put the state in competition with private enterprise, competition with financing of educational institutions, and does the bill require provision of service to both private and public schools.

Mr. Hodges responded to questions from Rep. Vining, Rep. Alldritt, Rep. Loyd, Rep. Krehbiel, Rep. Holmes and Rep. McClure.

Jay Allbaugh, Cox Communications, presented an overview of Multimedia Cablevision/Cox Communications' Statewide Technology Initiative (Attachment 5). His presentation explained both the existing and planned Kansas Fiber Network Cox Communications has for the state. Mr. Allbaugh stated that there are wide area networks already in place and shared information on the affordable wide area networks they are planning.

Mr. Allbaugh responded to questions from Rep. Sloan, Rep. Alldritt and Rep. Morrison.

Chairman Holmes closed the hearing on **HB 2635.**

Rep. Loyd moved to approved the minutes of the January 24, January 25, January 26, and January 27 meetings. Rep. Krehbiel seconded the motion. Motion carried.

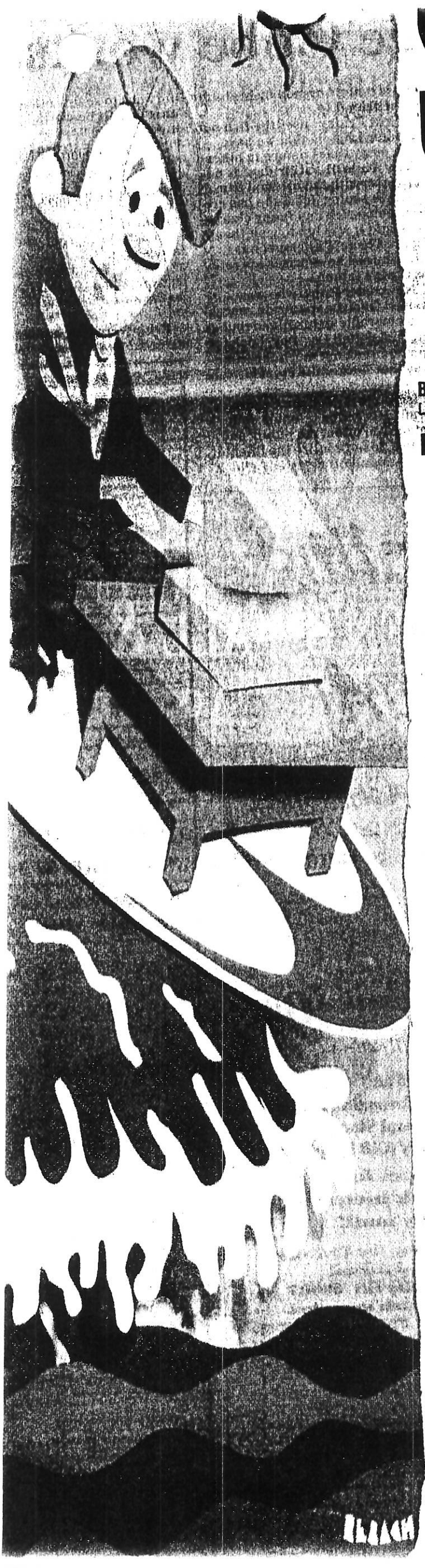
The meeting adjourned at 10:55 a.m.

Next meeting will Thursday, February 3, 2000 at 9:00 a.m.

HOUSE UTILITIES COMMITTEE GUEST LIST

DATE: February 2, 2000

NAME	REPRESENTING
Whitney Damron	KS Gas Service
Sandy Braden	Williams Co.
Patrick J. Hurley	KCPL
ED SCHAUB	WESTERN RESOURCES
Chris Wilson	KS Governmental Consulting
DIANE JOHNSON	State Library
Stan Sanders	KGE
Ron Hein	Ks Cable Telecommunications Assn
MIKE REECHT	AT&T
BRUCE GRAHAM	KEPCo
Mike Murray	Sprint
Randy Perkins	SWBT
MARCY SULLIVAN	DISC - D of A
Tom Gleason	Independent Telecom. Group
Kim Gulley	LKM



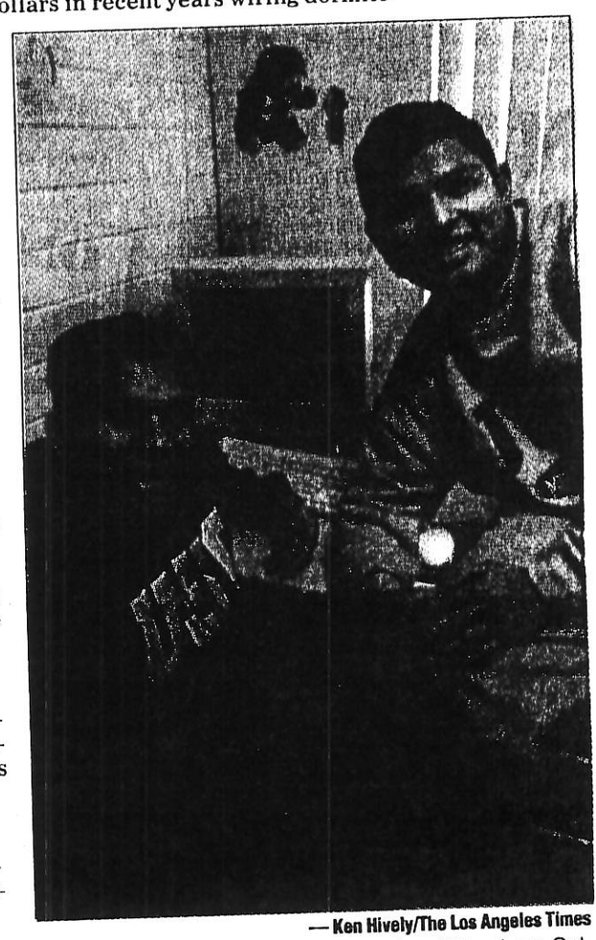
Surf's up *in college dorm rooms*

By GREG MILLER
Los Angeles Times

The proposed merger of America Online and Time Warner anticipates an age when high-speed Internet access is everything, a conduit for almost all of the entertainment, communications and information that people consume.

It is an era so distant to most Americans that they can hardly envision it. And yet it already exists. In fact, it is the only world that today's college students know.

Colleges across the country have spent hundreds of millions of dollars in recent years wiring dormitories for high-speed Internet access. The projects have been undertaken in the name of ushering the academic world into the Information Age. But in reality, colleges have done far more: They have created a cohort of consumers utterly addicted to the kinds of services and data delivery speeds that more and more companies have bet their future on providing.



— Ken Hively/The Los Angeles Times

Thivantha Kurera, left, in his University of Southern California dorm room with brother Devinda. Students "live (their) lives over the Internet," Thivantha Kurera said.

To call today's students high-speed Internet users "is like saying 'breathers of oxygen,'" said Scott Sander, whose online movie company, Sightsound.com, caters almost exclusively to college students. "We have this one generation where the parents have no clue and the kids know nothing else. It's the biggest technological generation gap in history."

Indeed, today's students scoff at the ordinary Internet access most Americans know. They crave speed to such an extent that they base their housing decisions on it, restructure their meager student budgets to afford it, and refuse to attend any college that doesn't offer it.

Consider the suffering they endure when they go home for break and have to plug their PCs into plain old phone lines that are hundreds of times slower.

"You go through ethernet withdrawal," said George Lerdsuwanrut, a University of California, Los Angeles junior, referring to the campus network. "Your computer sits there and you don't want to use it. You eventually find other things to do."

"I can't stand it," said Thivantha Kurera, a sophomore at the University of Southern California. "I just wait until I go back to school."

The experience is so miserable, said Jerry Lin, a senior at Stanford University, "that I've been kind of scared about

Continued on page 2-B

Internet

Continued from page 1-B

the prospect of leaving my ethernet connection when I graduate."

College administrators acknowledge that academic pursuits account for just a fraction of the activity on their campus networks. The bulk of the traffic is made up of millions of packets of data containing music files, instant messages, toll-free phone calls, e-commerce orders, online games, bootleg movies and just about anything that can be broken down into bits.

Marks Tower, a high-rise dorm at USC, has been housing underclassmen since the mid-1960s. But alumni would be bewildered by the technological environment that thrives there today.

Walk down the hallway on the eighth floor almost any time of day and you're likely to hear students in separate rooms shouting at each other — "You killed me!" — as they mow each other down in online games played over the network.

Friends from opposite ends of the floor open their doors and stroll toward the elevators in eerie simultaneity because they just messaged each other by computer that it's time to head off to the dining commons. To them, knocking on someone's door is an antiquated 20th century tradition.

It is a Net-centric culture that amazes Kurera's older brother, Devinda, who graduated from USC just last year, but moved out of the dorms before they were wired.

"When I came to college e-mail was still fairly new for students," he said. "I don't do any Internet shopping. I wouldn't even conceive of downloading MP3 (music files)." Spending time around his brother, he said, "I'm almost grateful I didn't have ethernet access, because I wouldn't be able to go back to a modem. It seems like once you go ethernet you can't go back."

Ivy League schools were among the first to wire up dorms in the early 1990s. But the trend has spread to almost every four-year campus in the country in recent years. UCLA began offering high-speed access to all 6,500 on-campus residents in 1995.

Jupiter Communications estimates that there are 2 million households with high-speed Internet connections now, but 7 million college students who have high-speed access either in the dorms or elsewhere on campus.

Colleges that don't offer high-speed Internet access feel increasing pressure to catch up. Ohio State University, for instance, embarked on a crash course to install 10,000 high-speed Internet connections throughout its 49 dorm buildings last summer, largely because it feared losing students to better-equipped rivals.

"When admissions people go out and talk to students these days, the students always ask, "Do you have a (high-speed) network?' " said Valerie Shafer, director of information systems and services at Ohio State.

The changes have transformed academic life and made off-campus housing much less attractive. Today's students register for classes, get their homework assignments, research papers and attend professors' "virtual office hours" online. Stanford University and some others even post course lectures on the Net, so that students can review them any time they wish.

Of course, much of this can be accomplished with an ordinary modem, but tasks take far longer and simply connecting to the campus modem bank from outside can require a 45-minute wait. Although students in dorms often keep their Internet connection on 24 hours a day, students who dial in from off-campus are often restricted. At the University of California, Irvine, for instance, students who dial in from off-campus are allotted just seven hours a week during "prime-time hours" that include weekday evenings.

Demand for dorm rooms has surged. At USC, for instance, 800 more students applied to stay on-campus this year than last year. UCLA, Boston College and dozens of other schools report similar statistics.

At Carnegie-Mellon University in Pittsburgh, 75 percent of undergraduates live on campus. The university performs annual surveys asking dorm residents why they stay.

"The No. 1 reason," said Tim Michael, director of housing services, "is their Internet connection."

Only a few colleges can offer students space in the dorms beyond their first two years. At USC, for instance, many juniors and seniors live in university-owned buildings just off-campus, some of which have not yet been wired.

"For a long time, students' choices were based just on proximity to campus and cost," said Ivan Wilson, manager of housing services at USC. "Now the wired rooms are selected first regardless of how close they are."

Today's teens and young adults are facile with technology long before they enter college. A recent survey of 16- to 22-year-olds by Forrester Research Inc. in Cambridge, Mass., found that 47 percent are online. They spend an average of nine hours a week signed on, compared to six hours for wired adults. Teens and young adults typically have at least three e-mail addresses, whereas most adults have just one. They are by far the most active users of chat rooms and instant messaging services.

But though they have grown up with the Net, their appetite for it changes dramatically when they move into the dorms and get a dose of speed.

"I remember before I came to college, I thought the Internet was a waste of time and really slow," said Sean Checketts, a 21-year-old senior at the University of California, Santa Barbara. After a few months in the dorms, he said, he was "almost an addict."

Like thousands of students, Checketts learned about MP3 in the dorms. MP3 is a data compression format that allows songs from CDs to be converted to small data files that can be traded across the Internet almost effortlessly. The practice often violates copyright laws but, to the chagrin of the music industry, it has proliferated wildly.

Wiring dorm rooms has been costly for universities. UCLA alone has spent about $7 million. Most projects are paid for by students in the form of additional fees spread out over a number of years. It usually amounts to about $100 per year for students.

"It's a necessity at a higher institution of education in this day and age," said Jim Craig, assistant vice chancellor of campus life at UC Irvine. "It's part of the fabric of learning."

It is also, at times, a major headache for administrators. Students take advantage of their high-speed connections for all sorts of extracurricular activities, some of which are illegal.

At Carnegie-Mellon last October, administrators performed a random search of the files 250 students had stored on the campus network. The administrators found that 71 students were storing illegal MP3 files, movies or copyrighted games and revoked their Internet access after the search.

At UCLA a few years ago, two students were arrested by the FBI for setting up their computers to distribute child pornography, a felony under federal law, said Michael Schilling, director of the information technology group at UCLA. Campus officials declined to reveal the students' names or the outcome of the case.

The most widespread problem, however, is the exploding popularity of MP3 files and bootleg movies. Just possessing such files is often a violation of copyright laws, but it is hard to find a student who expresses much concern about that.

"Everyone does it, everyone," said Mugen Suzuki, a UC Irvine junior. "Mostly, that's why students like the ethernet. It takes like seconds to download MP3s that take 15 minutes over a modem."

The recording industry is engaged in what many consider a futile effort to crack down on the proliferation of illegal MP3s. UCLA, the University of Virginia and dozens of other colleges say that at least twice a week they are approached by the Recording Industry Association of America, asking administrators to shut down computers of students who set up their PCs to share MP3 files with others.

Most universities act on such requests by shutting down the student's access, but rarely take additional disciplinary action, and almost never police campus networks themselves.

"We consider this an educational environment," said Ken Poley, coordinator of the campus network at UC Santa Barbara. "If students need to learn lessons, they might as well learn them here." Nevertheless, Poley said he is increasingly disillusioned. "We're providing this great access," he said, "and they're sharing MP3s and movies."

Students spend huge chunks of time online, and an increasing amount of money. Forrester's recent survey showed that over a six-month period, young consumers spent an average of $332 on online purchases, about $35 more than adults who made online purchases averaged. Entire industries are being assembled with hopes of cashing in when these students graduate and start earning significant salaries.

Many experts believe that AOL's main reason for buying Time Warner was to gain control of Time Warner's large cable television infrastructure, which is gradually being converted into a system capable of delivering high-speed Internet service to the 13 million households it reaches. Today's college students will fuel that demand.

MOVIE REVIEW

'Next' effort from Ice Cube works

Freshmen

Continued from page 1-B

answered that way in 1982, the first year that question appeared.

reality that the faculty feel they are facing with students," she said

Among the other findings in the 1999 college freshman survey:

➤ Students are a bit older and are taking longer to finish high school.

Utilities Committee of the House of Representatives
Representative Carl Holmes, Chairperson
Representative Tom Sloan, Vice-Chairperson
Representative Laura McClure, Ranking Minority Member

February 2, 2000

Information from Duane Johnson, State Librarian, **speaking in support of House Bill 2591, KAN-ED**, a state network for broadband connectivity and equal access to educational information.

Thank you very much for the opportunity to speak to the Utilities Committee.

The KAN-ED proposal results from a useful collaboration of schools, libraries, universities, DISC, and KANREN, ably assisted by the leadership of KTEC, working together to design the network that will serve Kansas education effectively in the twenty-first century.

The motivation for this proposal is our desire to provide high quality education and in so doing, to remain competitive with the state-supported education systems that are provided in many other states. For example, the services and supports proposed for KAN-ED are already in daily use in the State of Missouri through MOREnet, that state's education network operating since the early 1990s.

In addition to the Department of Education and many groups associated with the DOE, **KAN-ED has been endorsed by -**
The Kansas Library Association
The State Library Commission
The Kansas Library Network Board
The State Library

Speaking to the benefits of the proposed network:

KAN-ED will equalize people's access to educational information and services.
Through this state-assisted network, every Kansan can have adequate access, near at hand, to local and distance education and related information services that will support the individual's education and life pursuits.

Learners in every classroom - by way of the schools, and learners in every community - by way of the local library, will have access to this education network. K through 12, vocational, college and university, and in fact **any Kansan** who wants access to this learning system will have access. With libraries, schools, and higher education working together, KAN-ED will effectively remove most geographic and economic barriers to educational information.

KAN-ED will improve connectivity by replacing inadequate modem connections with broadband access.
Broadband connection provides adequate speed of data transmission to effectively support education and information service. Some schools and more than 90% of libraries can afford only the modem connection that cannot effectively support information service for education

HOUSE UTILITIES

DATE: 2-2-00

ATTACHMENT 2

KAN-ED will provide equalized access to scholarly information that will improve research for education and economic development.

Information content is an important part of this proposal. Students and researchers of all ages, in all areas of the state, will have access to the databases that will support their education goals, scholarly research, and economic development. Information from these sources is reliable, authoritative, and as technical as necessary to meet the need, and is safe for children to use.

KAN-ED will provide opportunities for training for use of the technology and information services.

Insuring that teachers and librarians know how to make the best uses of the technology and information services is an important part of this proposal.

KAN-ED will help people of all ages learn essential technology skills.

Students through the schools and universities and adults through the local library will have a valuable, adequate access to technology training. With connectivity provided by this network, Kansas students and workers will become and remain competitive with those in other states who have access to their state's advanced technology. Our better trained work force will be more appealing to the industries that are important to Kansas development.

KAN-ED is necessary state infrastructure in this global information economy.

Kansas needs a coordinated information network that will facilitate information transfer among all education agencies and which will support the delivery of distance education. For the benefit for people everywhere in the state, KAN-ED should connect us together for education and public services, and also should connect us to the global information network.

The local library is a rich source of educational information to students and teachers.

The local library is a connection to the information network of all other libraries from which needed information is borrowed and shared.

For the majority of people who still are not online, the local library is the point of access to the state, national, and global information network.

The local library is the inviting, non-threatening place where many adults receive their early training in computers and Internet research.

The local library is the university library for the student learning through distance education.

Your local library is an essential partner assisting K through 80 education.

Thank you very much for the opportunity to speak to the committee. I'll be pleased to respond to your questions.

Duane Johnson
State Library
Capitol Building, Third Floor
785-296-3296 duanej@ink.org

KAN-ED:

The Next Step Toward
A Statewide Network for
Schools, Libraries, and State Agencies in Kansas

A proposal to the
Kansas Legislative Special Committee on Education
September 22, 1999

By
The Kansas Information Technology Action Committee (KITAC)
And
The Kansas Education Technology Advisory Board (KETAB)

HOUSE UTILITIES

DATE: 2-2-00

ATTACHMENT 3

KAN-ED: The Next Step Toward A Statewide Network for Schools, Libraries, and State Agencies in Kansas

The Purpose

The State of Kansas needs a comprehensive strategic investment proposal for providing Internet connectivity and technology integration for all of its schools, libraries, and state agencies. This proposal to the Kansas Legislative Special Committee on Education presents the rationale, goals, budget and schedule for developing and implementing this blueprint. The Kansas Information Technology Action Committee (KITAC) and the Kansas Education Technology Advisory Board (KETAB) collaborated to develop this joint proposal, and they are pleased to present it for legislative review and action.

The Vision

As we enter the 21st century, every citizen of Kansas should benefit from the global digital revolution in information technology. To achieve this vision, all Kansans should be provided with the opportunity, training and resources to use and exploit electronic information and technologies for their betterment now and in the future.

The Overview — The Digital Divide

The 21st century will be the age of electronic online information. The ability to access, integrate and transform information into knowledge will be fundamental to national security, economic growth, education, human health, natural resources management and improving the quality of life. Information and its application will be the engines of commerce. The medium and format for this information will be increasingly electronic, digital, and online.

States must, therefore, participate fully in the digital information technology enterprise. They must be able to learn, live with, and exploit information technology, or they will be left on the wrong side of the digital divide. Their businesses will not be able to compete and win in today's

global markets; their citizens will not be able to access the goods and services they need; and their schools will not be able to prepare children for the jobs they will be expected to fill in the future.

Delaying this investment will only widen the digital divide. In the past fifty years alone, the information technology sector accounted for one-third of our economic growth. Jobs in the information technology sector are now paying 80% above the private average wage. Firms are using information technology to market, customize, and deliver products; and they are achieving speed, flexibility, and proximity to their customers [1]. Between 1995 and 1998, information technology producers, while accounting for only about 8% of the U.S. Gross Domestic Product, contributed on average 35% of the nation's real economic growth. By 2006, almost half of the U.S. workforce will be employed by major producers or intensive users of information technology products and service [2]. Clearly, to function successfully and competitively in our society, literacy in information technology is now a basic skill. Is Kansas prepared?

These trends are already affecting Kansas. In 1997, information and communications technologies accounted for nearly 30,000 jobs in Kansas, making it the fourth largest and fastest growing employment sector in the state's economy. Recognizing the need for information technology literacy, Kansas schools invested in computers, and in 1997, ranked first in the nation in the number of computers per 100 K-12 students [3].

Unfortunately, stand-alone computers cannot bridge the digital divide. They must be connected to the vast and global resources of the Internet if Kansas students will enter and explore the world they will lead. Currently, Kansas ranks 36th among the 50 states – and below many neighboring states -- in providing Internet access to the classroom [3]. The digital connections must be made now to realize the economic and educational connections for every Kansas citizen in the future.

Visionary states have already made the digital commitment.

- Pennsylvania is upgrading the state's public network to provide advanced services and increased bandwidth [4].

- All of Maine's schools are hard-wired to the Internet. Its citizens can get hunting and fishing licenses on-line, and the state is pursuing real-time town meetings via the Internet [4].
- Missouri's MOREnet provides dedicated Internet connections, training, network and security services, technical support, consulting, electronic subscriptions, and other services to the University of Missouri, K-12 schools, public libraries, community networks and state agencies [5].
- Washington's K-20 Network connects students and educators at every level, providing them with Internet access, videoconferencing, and unprecedented opportunities to share educational resources. In thanking legislators for their role in the development of the network, a proud Governor Gary Locke noted, "Whether you live in Greater Spokane or Seattle, or the many rural areas throughout the state, all students will have equal access to high quality learning opportunities through technology [6].

The choice for Kansas could not be clearer. Kansas can emerge as a leader in this arena, or it can be left in the dust. Kansas can provide all of its students with a world-class education or only the lucky few. Kansas can enable all of its citizens to have access through libraries to information and services that improve their quality of life, or it can limit their ability to obtain government data, seek medical advice, or enroll in courses to improve their job skills. Kansas can enable its agencies to operate with greater cost-efficiency and cost-effectiveness, or it can reduce service and responsiveness to its growing constituencies.

The answer too is clear. Kansas must invest in its public network infrastructure to emerge on the right side of the digital divide. Postponing this investment will foreclose opportunities to participate in the world of digital information now driving economic growth and rising living standards. Playing catch-up in information technology is an expensive policy the state will not be able to afford fiscally or educationally.

This is especially true in states with small, geographically dispersed populations, such as Kansas, where Internet connectivity to schools and libraries is more costly. In more densely populated states, the fixed costs of this service can be distributed among a larger number of subscribers. Commercial providers have little incentive to extend their networks to sparsely populated regions

where high costs erode profits. Thus, in states with small, geographically dispersed populations, government must make the initial investment to stimulate network development and usage to levels at which commercial investments become viable and self-sustaining.

Opportunity

The state of Kansas already has existing government, academia, and private sector information technology resources. These resources should be leveraged to build an integrated and comprehensive information and communication technology network for all Kansans. Financial leverage of these resources will require smaller investments by all stakeholders and result in quicker implementation.

Goals

The goal is to create an integrated state network that provides:

- Higher quality education and careers for all Kansans.
- Greater competitive position for Kansas.
- More Kansans qualified for higher paying, high skilled knowledge jobs.
- Equal access to electronic information and services.
- Life long learning.

Benefits

There are many benefits that will be realized by the 304 school districts, 330 libraries, and 28 education service centers as a result of implementation of the KAN-ED network.

KAN-ED will enable:

- Statewide access to electronic databases.
- Aggregated subscriptions to on-line periodicals and journals.
- Development of curricular materials for local as well as statewide use.
- Shared instructors, especially in subject areas where there is a shortage of certified personnel.
- Access to the wide variety of enrichment materials available through government agencies such as NASA, EPS, and the Library of Congress.
- Access to the informal sciences, arts, and humanities education materials through museums.

- Provisions for customized training and education to students of all ages.
- Increased opportunities for teacher in-service training.
- Makes the infrastructure more affordable and easier to maintain.

The Investment Recommendation

The State of Kansas should invest in a comprehensive KAN-ED plan for providing Internet connectivity and technology integration for all of its schools districts, libraries, and education service centers. The state is well positioned to do so, given the existing network infrastructure, the leadership in networking initiatives demonstrated by the Regents universities, the state library's interlibrary loan network, the presence and growth of information technology industries in Kansas, the applicability of information technology to Kansas' agricultural and industrial sectors, and the strong spirit of cooperation apparent among the state agencies involved in the public networking enterprise.

The major components of this investment proposal are:

- the network
- network services, training, and content
- KAN-ED management
- The implementation plan and proposed budget

The Network

Kansas has several special purpose networks that can be leveraged to create the KAN-ED network:

- KANS-A-N serves as the state's backbone network and provides voice, data, and video services for state agencies and Regents institutions.
- KANREN uses circuits within KANS-A-N to provide its 59 non-profit consortium members with network, training, and support services tailored to the needs of educational and research institutions.
- KANWIN, a subnet of KANS-A-N, provides the specific set of protocols necessary for remote access to some of the state's large information systems and the Internet.

- CJIS, another subnet of KANS-A-N, connects members of the criminal justice system.
- KICNET is the interlibrary information-sharing network.

KANS-A-N, the umbrella network for KANWIN and CJIS, has nodes in every Kansas county. In addition, there are several educational video networks each providing a cluster of schools with full-motion video for distance learning.

Recently, The University of Kansas joined North Dakota, South Dakota, Nebraska, Oklahoma, and Arkansas to develop the Great Plains Network, a high-speed communications backbone linking these six states and connecting them to Internet2. The National Science Foundation awarded start-up funds for this network, and the Kansas Technology Enterprise Corporation provided matching funds on behalf of the state.

Each of these networks meets important needs of its users. Unfortunately, KANS-A-N and KANREN networks are not fully meshed, and some public sector agencies are not connected at all. For example, many public schools and libraries in Kansas do not have network connectivity, or their level of connectivity is not adequate for the large volumes of data required for document exchange or interactive video. As a general rule, networks achieve their greatest value when they are connected to other networks, which enables any user on the network to connect to any other user on the network. The investment in infrastructure pays its largest dividends when this connectivity includes:

- access to the Internet
- technical standards to ensure compatibility among all points on the network
- training to ensure skilled use of the resource

Kansas can achieve these benefits and close the digital divide by connecting each school district, library, and education service center to the state backbone network.

These new network connections, called KAN-ED, would be an extension of the KANREN, CJIS, and KANWIN networks that reach into every Kansas county today. KAN-ED services would include:

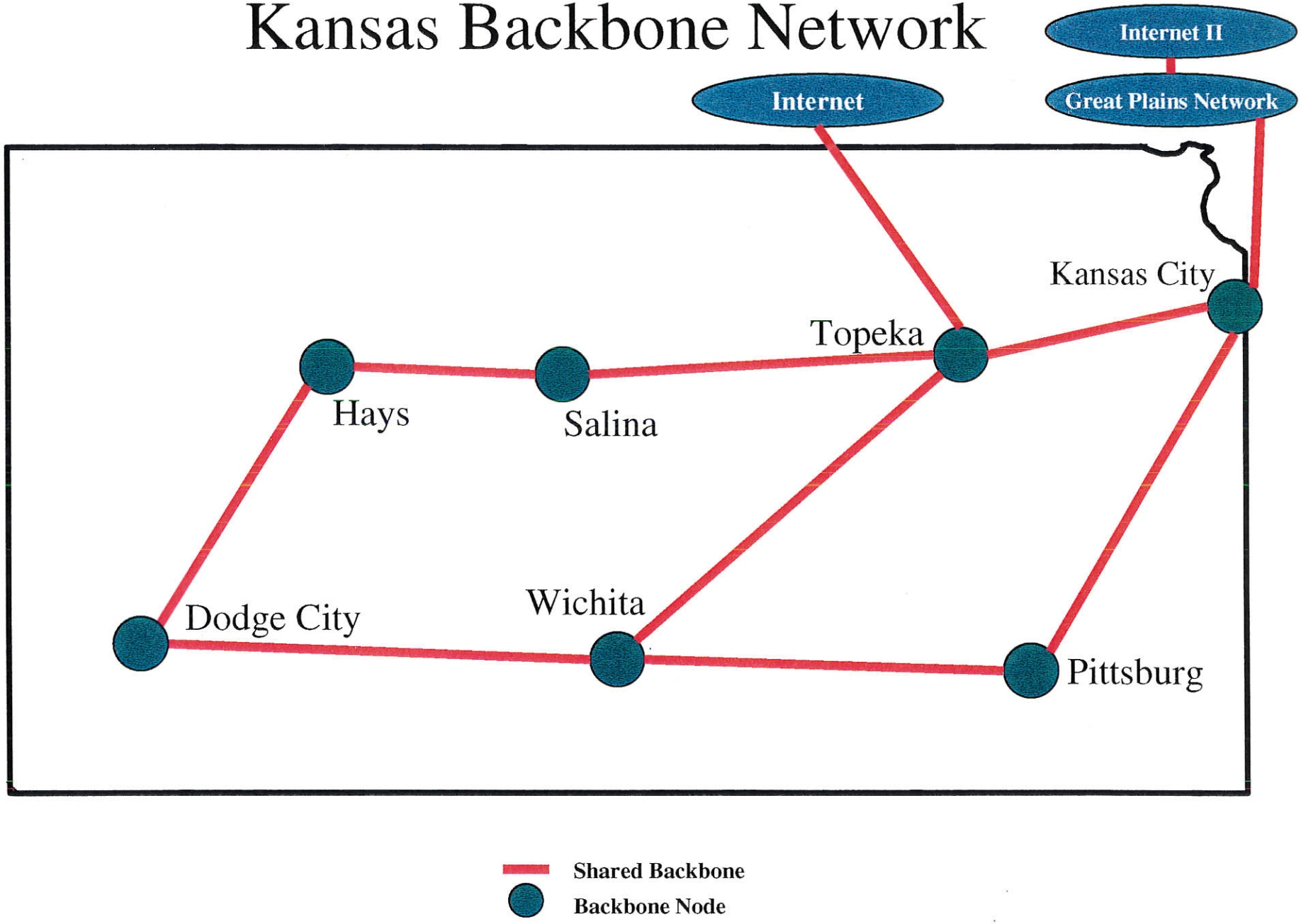
- interactive video.
- discounted long distance.
- access to telemedicine, library, educational and government services.
- access to the Internet and the information and commercial resources available on it.

Technically, KAN-ED would include the following components:

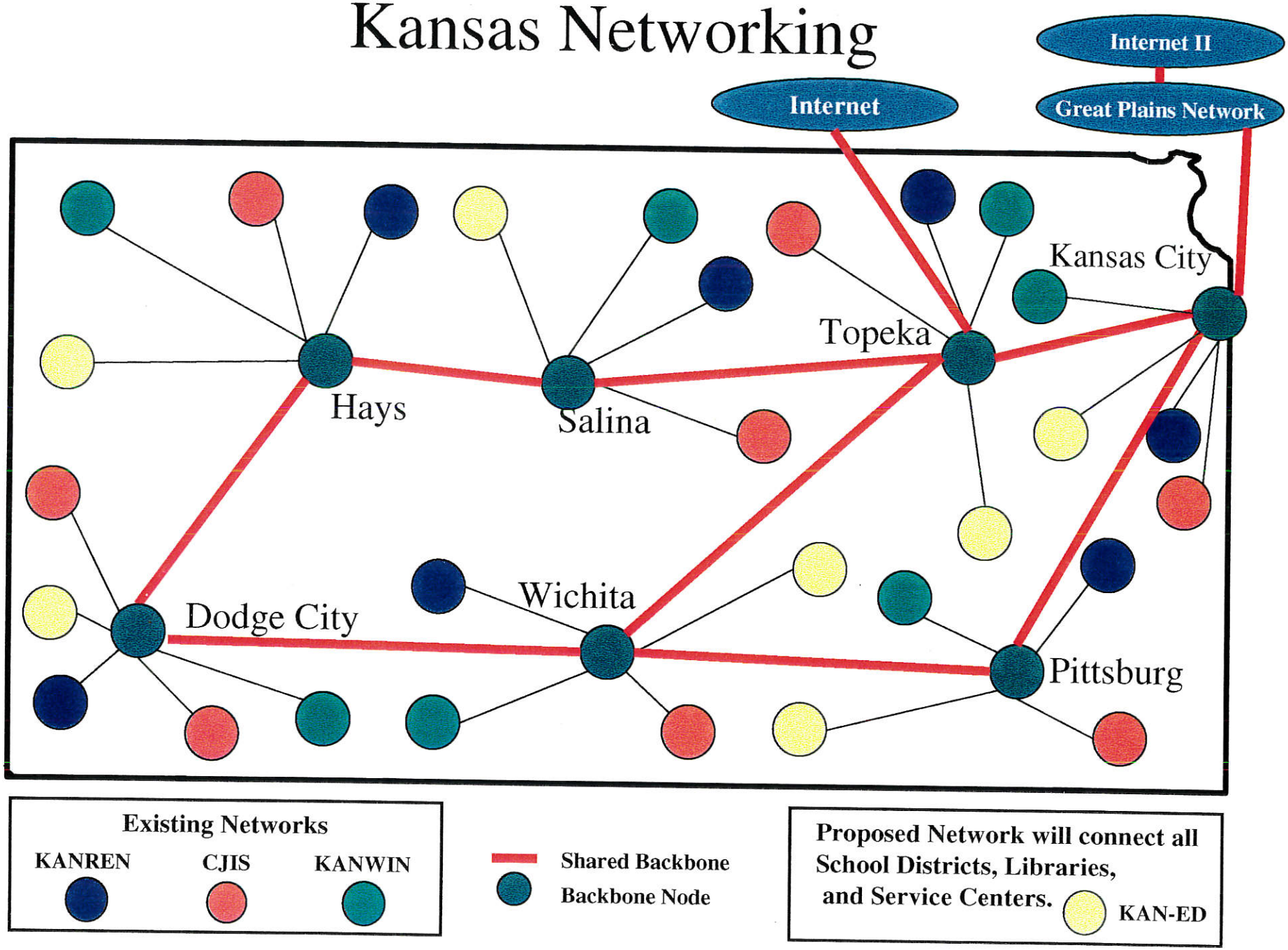
- DS3 (45 Mbps) bandwidth to 12 model school districts for video.
- T1 (1.5 Mbps) bandwidth to 12 model school districts for Internet.
- T1 (1.5 Mbps) bandwidth to 292 school districts for Internet and data transmission.
- 6 DS3 (270 Mbps) bandwidth in the KANWIN backbone.
- Scaled bandwidth from 384 Kbps to T1 (1.5Mbps) for 326 libraries.
- SDN AT&T long distance service for all school districts.

With KAN-ED, Kansas will create a multi-service, high speed, scalable backbone network connecting all public agencies in the state, including schools, colleges, universities, and libraries.

Kansas Backbone Network



Kansas Networking



KAN-ED Management

The State's Chief Information Technology Officer for the Executive Branch has overall responsibility for the integrated KANS-A-N network. KAN-ED, as an extension of KANS-A-N, will be part of the CITO's responsibilities. At the operational level, KANREN and DISC will partner to provide the actual KAN-ED network infrastructure. The Executive Director of KANREN will direct KAN-ED. DISC, through its Bureau of Telecommunications, will provide administrative services, engineering services, the Network Control Center, backbone circuits, and contract management. Service level agreements with the Kansas Department of Education will determine the exact relationship between DISC and KANREN.

Services

Training. The accelerated rate of change in information technologies often results in spectacular advances in functional capability. Recognizing the need to keep pace with the evolving technologies, KAN-ED includes a training component to help end users, teachers, students and local site technology managers achieve maximum benefit from the network and information resources accessible through it.

KAN-ED would provide training to help schools and libraries learn how to use, deploy, and support wide area and campus networks. Training would include direct services to educational service centers and cooperatives, as well as to the inter-locals. In addition, Kan-ED would sponsor conferences on network architecture, network usage, and related technologies. Training would be ongoing and would occur at two levels: 1) how to access and maintain the network, and 2) how to integrate technology as a learning tool.

Training on network access and maintenance would occur at strategic locations across the state. Through collaborations among the business and education sectors, networking academies and certification programs would train students for future technological jobs and build the capacity within local schools and libraries to maintain and troubleshoot local networks, equipment, and connections.

Training on integrating technology as a learning tool would build upon the Kansas State Department of Education's TAKE a STEP framework for combining face to face, video-based and web-based learning opportunities. KSDE developed this framework in collaboration with teachers, district technology leaders, higher education, industry, and a national regional technology consortium. By providing access to the vast resources available through the Internet and curricular materials developed within the state, KAN-ED would enable customized, demand-driven, just-in-time virtual training at any node on the network as the need arises.

Educational Content. The Internet is a vast encyclopedia of knowledge and information. Its content grows exponentially every day as more information is created, presented, and stored in electronic and digital formats. This content is multimedia, including text, image, video, and music. Just as the printing press expanded access to books and periodicals, the Internet is expanding access to information in all these electronic formats. Some of this information is free; some of it is available through subscriptions, licenses, or fees; and some of it will be generated within the state for local and shared use. Not providing this expanse of materials to schools and libraries is akin to removing all encyclopedias and most books, journals, videos and recordings from their shelves.

As the state realizes the opportunity to leverage resources, the content and benefits of the expanded network will become a vital and integral part of day-to-day operations in schools, libraries, and state agencies. The diagram included as an attachment to this proposal reflects the infrastructure that would provide these services statewide.

Infrastructure Management. An important benefit of the management structure is the ability to aggregate the demand for information technology assets and services. By combining the network, equipment and software purchases of individual schools and libraries, it is often possible to achieve the critical mass necessary to negotiate lower unit costs with commercial providers of these goods and services. Collaboration can make the infrastructure more affordable as well as easier to maintain and operate by creating de facto standards through bulk purchasing. Training becomes easier and the new skills acquired are more easily transferred

from site to site. In some cases, aggregation can stimulate vendors to enhance their infrastructure to meet the increased demand. This can be especially important in sparsely populated regions of the state for reasons discussed above. Finally, the ability to aggregate the demand for information technology and services may lead to coordinated requests for appropriations and help ensure a more effective, non-duplicative use of funds.

Implementation Plan and Budget

KAN-ED would provide Internet access and video service from the state backbone network to 304 school districts, 330 libraries, and 28 education service centers in the state. School districts would have access to help desk consultation and training as described above. Libraries would offer electronic publication and database services to their clients. In addition, libraries would reduce their long distance communications costs by joining the state system and state of the art high bandwidth technology for applications such as video services to 25 school districts and 20 libraries for research and development. The total investment to implement KAN-ED in the first year would be $17.5 million, including $4.5 million in one-time costs and $13 in recurring costs.

Estimated Costs
KAN-ED Network
In Millions

	Site Count	One Time $	Annual Recurring $
Education			
District Internet Access	304	$1.8	$2.1
Video (DS3) Full Motion	25	1.1	1.6
Service Centers	28	0.2	0.2
Help Desk & Training		0.0	1.6
Backbone Network		0.1	1.4
Total Education	357	$3.2	$6.9
Libraries			
Internet Access	330	$0.4	$2.3
Video (DS1)	20	0.8	1.0
Shared Publication Services		0.0	1.0
Backbone Network		0.1	1.4
Long Distance		0.0	0.4
Total Libraries	350	$1.3	$6.1
Total for KAN-ED	713	$4.5	$13.0

Funding Recommendation

KAN-ED will need a stable source of funding each year to remain in operation. It is therefore recommended that KAN-ED be funded from the state general fund. There are other potential funding sources such as E-Rate, Kansas Universal Service Fund, grant programs, and partnerships with service providers that can augment the state general funds, but these sources are not reliable from year to year. Local school districts will provide matching funds by continuing to budget for technology infrastructure within their school district.

Significant potential savings are possible through leveraging and aggregate purchasing. Opportunities include:

- Lowered unit costs for the network, equipment, software and training.
- More cost effective infrastructure maintenance and enhancement.
- Consolidated network operations.
- More efficient network operation and use through training.

At this time it is impossible to estimate these cost savings until the network is implemented.

References

[1] Remarks by Chief of Staff John Podesta on Research and Development Funding, National Press Club, September 1, 1999.

[2] U.S. Department of Commerce, June 1999.

[3] *Kansas Innovation Index*, KTEC, 1999.

[4] Beth Stackpole, Next Internet, *Civic.com*, September 1999.

[5] http://www.more.net/

[6] http://www.wa.gov/k20/

Individuals Involved in Proposal Preparation

KITAC/KETAB Members

Richard	Bendis *	Kansas Technology Enterprise Corp. (KTEC)
Andy	Tompkins *	Kansas State Department of Education

KITAC Members

Doug	Heacock	Kansas Research and Education Network (KANREN)
Don	Heiman *	Kansas Division of Information Sys. & Comm. - DISC
Jo	Hunt *	Western Resources
Duane	Johnson *	Kansas State Library
Tim	Johnson	Information & Telecommunication Technology Center
Debra	Luing	Information Network of Kansas
Guy	McDonald	Kansas Corporation Commission
Jerry	Niebaum *	University of Kansas
Dan	Stanley *	Kansas Department of Administration
John	Voeller *	Black & Veatch Consulting
Alan	Weis	Kansas Technology Enterprise Corp. (KTEC)

KETAB Members

John	Heim	USD #253
Jayne	James	Kansas State Department of Education
Jim	Nazworthy	South Central Reg. Tech. in Ed. Consortium
Howard	Pitler	USD #259
Greg	Rasmussen	Kansas State Department of Education
Sal	Tayani	Kansas State Department of Education

Others

Barbara	Paschke	University of Kansas
Bruce	Roberts	Kansas Division of Information Sys. & Comm. - DISC
Andy	Scharf	Kansas Division of Information Sys. & Comm. - DISC

* Co-chairpersons

KTIA

Legislative Testimony

Kansas Telecommunications Industry Association 700 SW Jackson St., Suite 704, Topeka, KS 66603-3758 V/TTY 785-234-0307 FAX 785-234-2304

Before the House Committee on Utilities

HB 2635 February 2, 2000

Mr. Chairman, members of the committee, I am Rob Hodges, President of the Kansas Telecommunications Industry Association. I appear today on behalf of the membership of our Association and the membership of the State Independent Telephone Association of Kansas (SITA). Collectively, our memberships are made up of local telephone companies, long distance companies, wireless telecommunications companies, and firms and individuals that provide service to and support for the telecommunications industry in Kansas.

HB 2635 would establish the state education technology network. The bill is similar to HB 2591, which this committee learned about last week in its joint meeting with the House Committee on Education. A key difference between the bills is that HB 2591 would include public libraries in the list of entities for which Internet connectivity and technology integration would be provided. The bill you are hearing today does not include public libraries. Perhaps that difference makes this bill KAN-ED LIGHT. I believe the comments that I bring today can be applied to either bill.

The telecommunications industry has listened with interest to the presentations that have been made regarding the creation of KAN-ED. Telecommunications companies have deployed advanced technology to educational institutions and are continuing to do so. We want to continue with our deployment plans and commitments, but HB 2635 (and HB 2591) proposes to make sweeping changes in how deployments are made to some of our best and most important customers. Indeed, in just three pages, the bill would create a statewide network that has the potential to be either a significant addition to our state's telecommunications infrastructure, or a project that undermines the progress made to date and threatens the viability of future deployment plans for advanced facilities.

Members of our industry have concerns about the bill, but they stop short of opposition at this time. The fact is that three pages of a bill cannot contain the level of specificity necessary to create a comfort level for us. And so, I appear today to share with you some of our concerns. Not in the interest of killing the bill, but in the interest of helping you understand the potential outcome of enactment. The answers to these concerns and questions will help individual companies within the industry determine whether they support the provisions of HB 2635

HOUSE UTILITIES

DATE: 2-2-00

ATTACHMENT 4

Our first and most basic concern is that the creation of KAN-ED could put the state in competition with private enterprise. If that is not to be the case, we ask that you make it clear in the language of the bill. Put in place the necessary assurances that tax funded competition will not materialize.

Members of our industry assume that contracts to provide facilities and services for KAN-ED will be let following a bidding procedure. Will existing facilities be used where they are already in place, or could one "master" contract result in overbuilding of existing facilities? Will successful bidders, who will be providing telecommunications services, be required to be certificated by the KCC?

A single "master" contract could mean the creation of an education network monopoly. We believe the state is trying to promote competition rather than create new monopolies. HB 2635 is silent on these matters, and it doesn't speak to who owns any new facility construction.

If one company gets the KAN-ED contract, or even a large percentage of multiple KAN-ED contracts, that provider would have an advantage over other providers. It would have an incentive to build more facilities than it needs to fulfill the KAN-ED requirements and then begin offering service from the extra facilities to other customers. Our concern is that this could lead to the type of "cherry-picking" that has been one fear of competition up to now - particularly in areas of the state that depend on support from the KUSF to keep rates affordable.

Many industry members are questioning what enactment of HB 2635 will enable Kansas to do that cannot be done today. For example, the Kansas Telecommunications Act already calls for deployment of broadband services to all requesting schools, libraries, and units of government.

In the presentations that have been made to the legislature so far, mention has been made numerous times about the training monies that are included in the KAN-ED program. What is the dollar amount of that component? We don't question the need for training, but is that appropriately a KAN-ED expenditure or do the local school districts (and libraries, if they are included) have a "local effort" responsibility to invest in this program?

If the bill is to help create a network, let's create a network. If the schools and libraries need additional funds for training, let's follow the traditional education finance procedures of the legislative process.

On the subject of finance, only the most cryptic cost breakouts have been mentioned in presentations to date. People in our industry wonder how much money will go to support what state agencies and other entities like Regents' institutions. We'd like to see network facilities built, not bureaucracies. As I pointed out above, there are

funding procedures through the Appropriations Committee and Ways and Means Committee to address the budgets and needs of state agencies.

The bill mentions discounted long distance services in line 21 of each bill. We have concerns about how that is to be implemented without creating government competition with private enterprise. There are over 420 providers of long distance according to figures from the KCC. Will KAN-ED use companies from that list, or add to it?

To the extent that the long distance traffic mentioned in the bill could be taken from the local telephone companies networks, that's bypass and we're concerned about the lost access revenue for those companies and how it will be replaced. This is essentially "cherry-picking" a good customer from a company that supports the local school district or districts through its property tax payments. This access revenue is used to maintain affordable rates for local service in high-cost areas. Its loss could necessitate local rate increases creating a hidden tax on some ratepayers in addition to the burden on the general fund.

As telecom industry people read the bill, they wondered whether it covers all schools, public and private, or just the public schools. Perhaps the intent is clear to education people, but our members raised that question.

Mr. Chairman, members of the Committee, members of the telecommunications industry are working diligently to create business plans that will support the deployment of broadband and other advanced facilities all across the state. There isn't a company in our industry that would refuse to make the required investments if the business plan proved them out. But today, making those commitments is not so simple.

Telecommunications people are wondering, if we can't make a case for technology deployment that <u>includes</u> schools and libraries in the service area, how will we ever justify the investments if the schools and libraries are served by some <u>exclusive</u> network and not helping support the deployment for the communities at large?

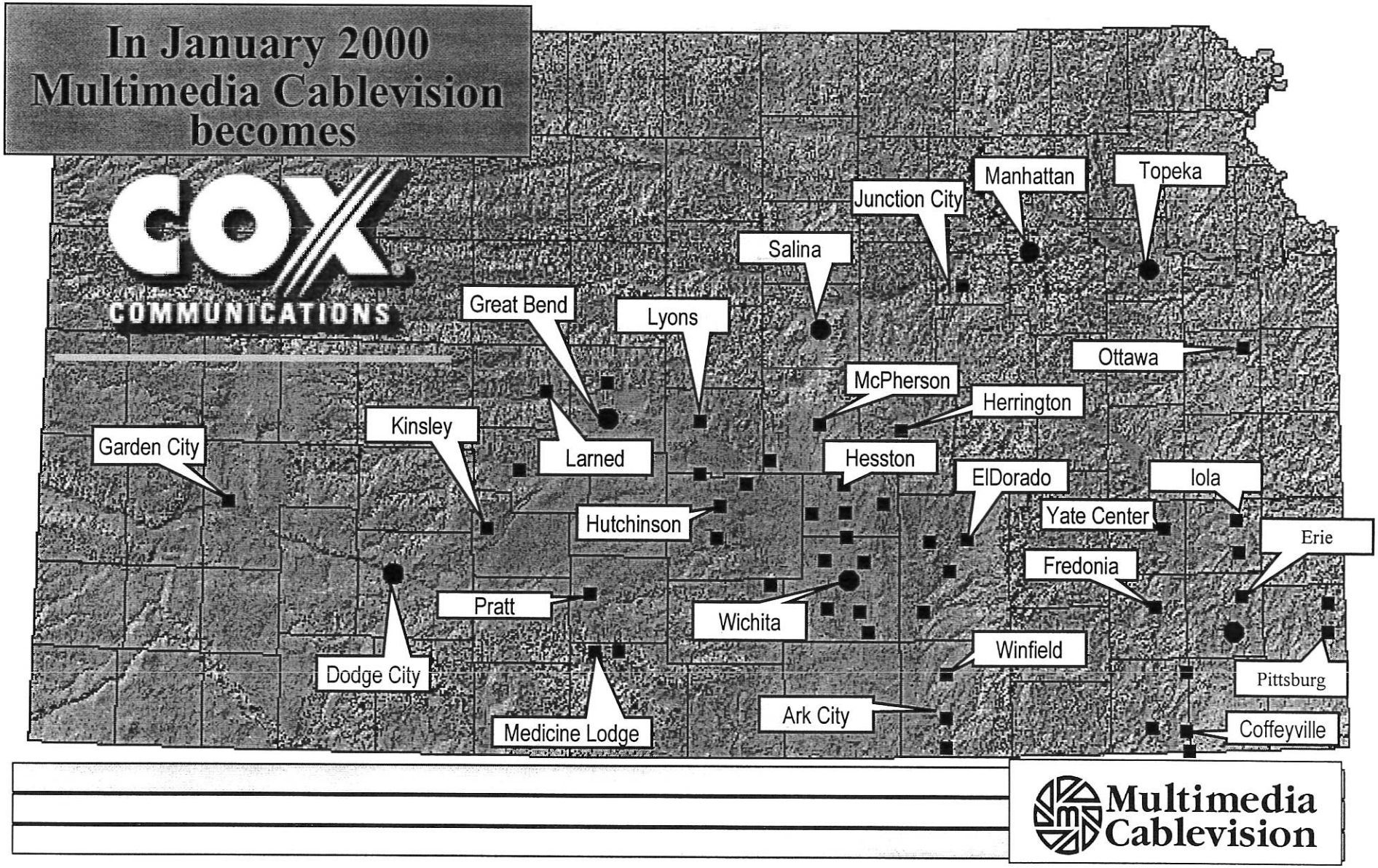
Our challenge is to make our concerns known to you while not sounding like we're opposed to schools and libraries receiving advanced telecommunications technologies. We're not opposed to deployment, we're deploying more and more of these facilities each day.

We believe this is the beginning of a long process of consideration of the KAN-ED proposal. We want to work with you and all the other involved parties to make good decisions that result in long-term solutions.

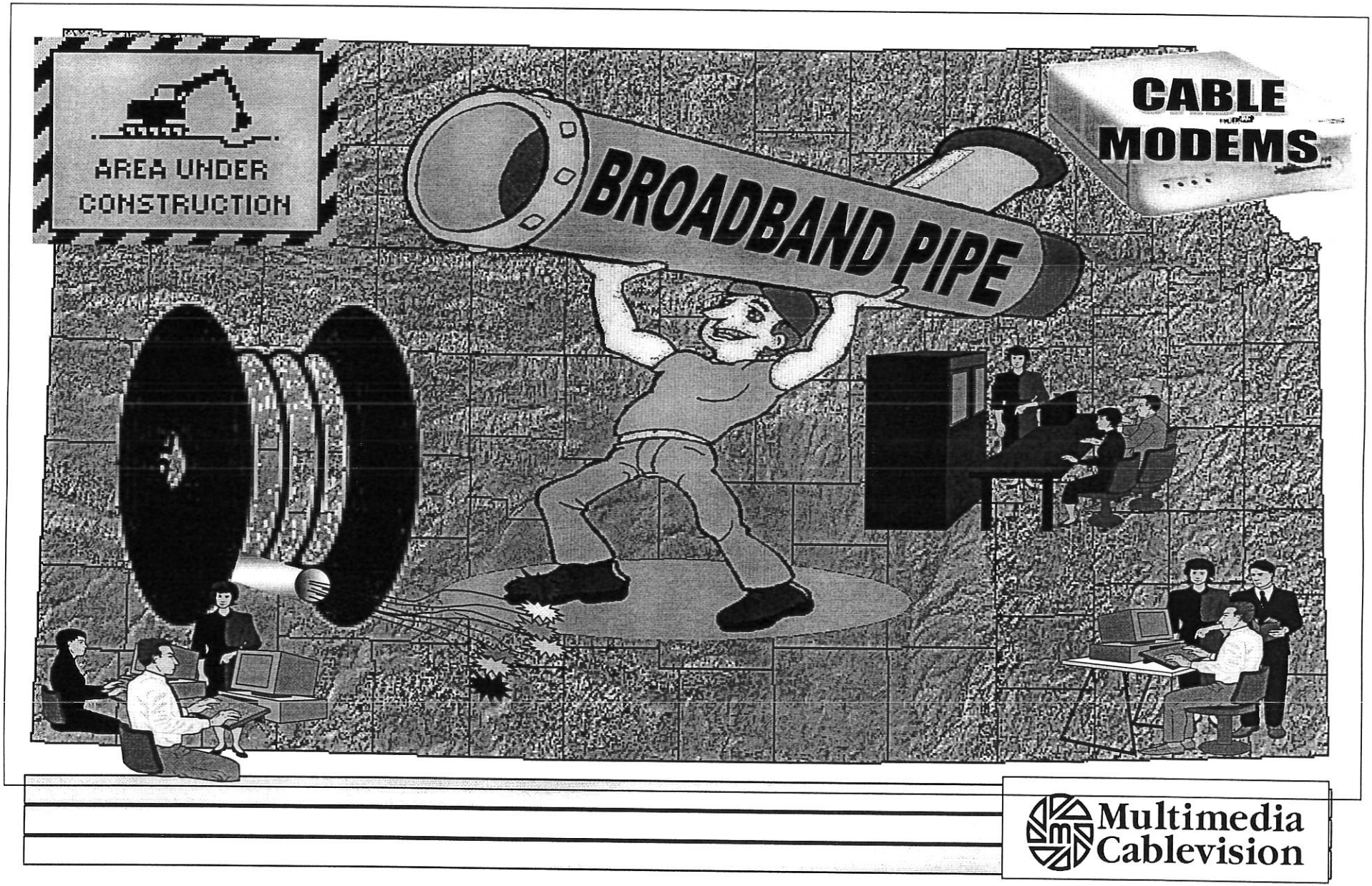
HOUSE UTILITIES
DATE: 2-2-00
ATTACHMENT 5

Multimedia Cablevision

We Serve over 90 communities in Kansas

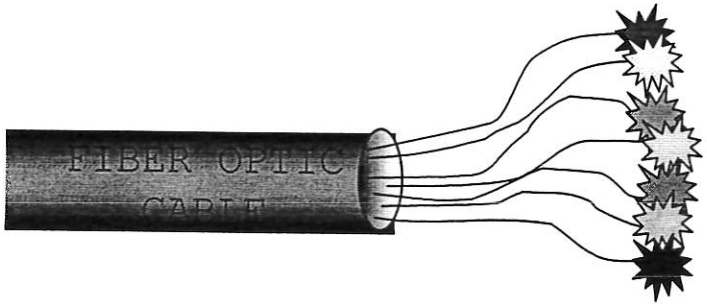


We have invested in Kansas

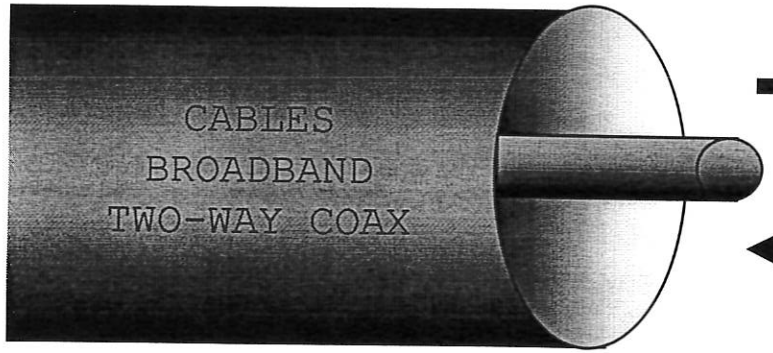


Multimedia Cablevision

Fiber Optics and Coaxial Cable are the Key



We have over 2,000 route miles of Fiber Optic Cable in the State of Kansas installed in both Urban and Rural communities

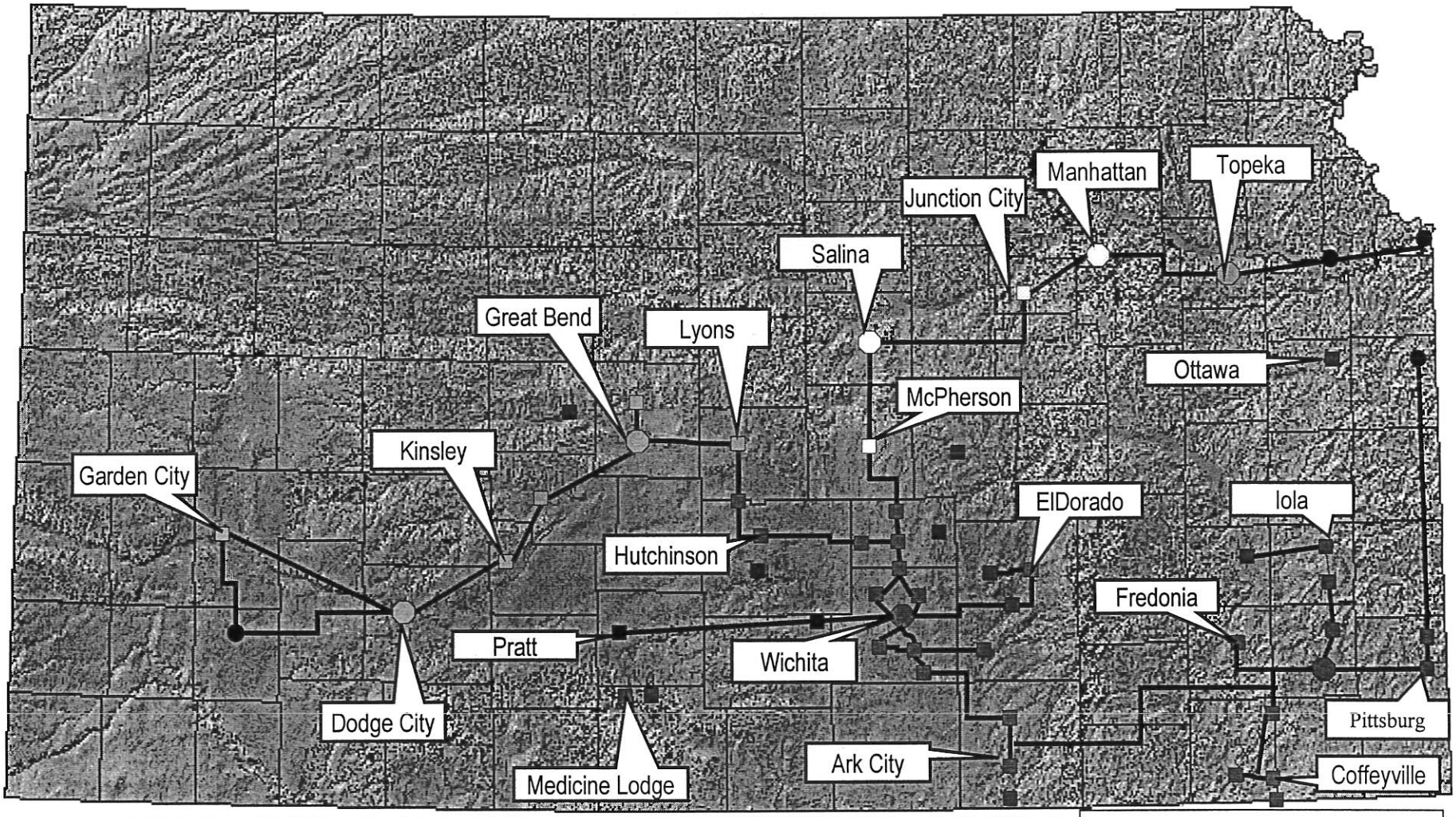


Cable TV lines, fed by Fiber Optics, enable huge amounts of data and video to be carried to points within communities and throughout the state

Multimedia Cablevision

Kansas Fiber Network

(Existing and Planned)

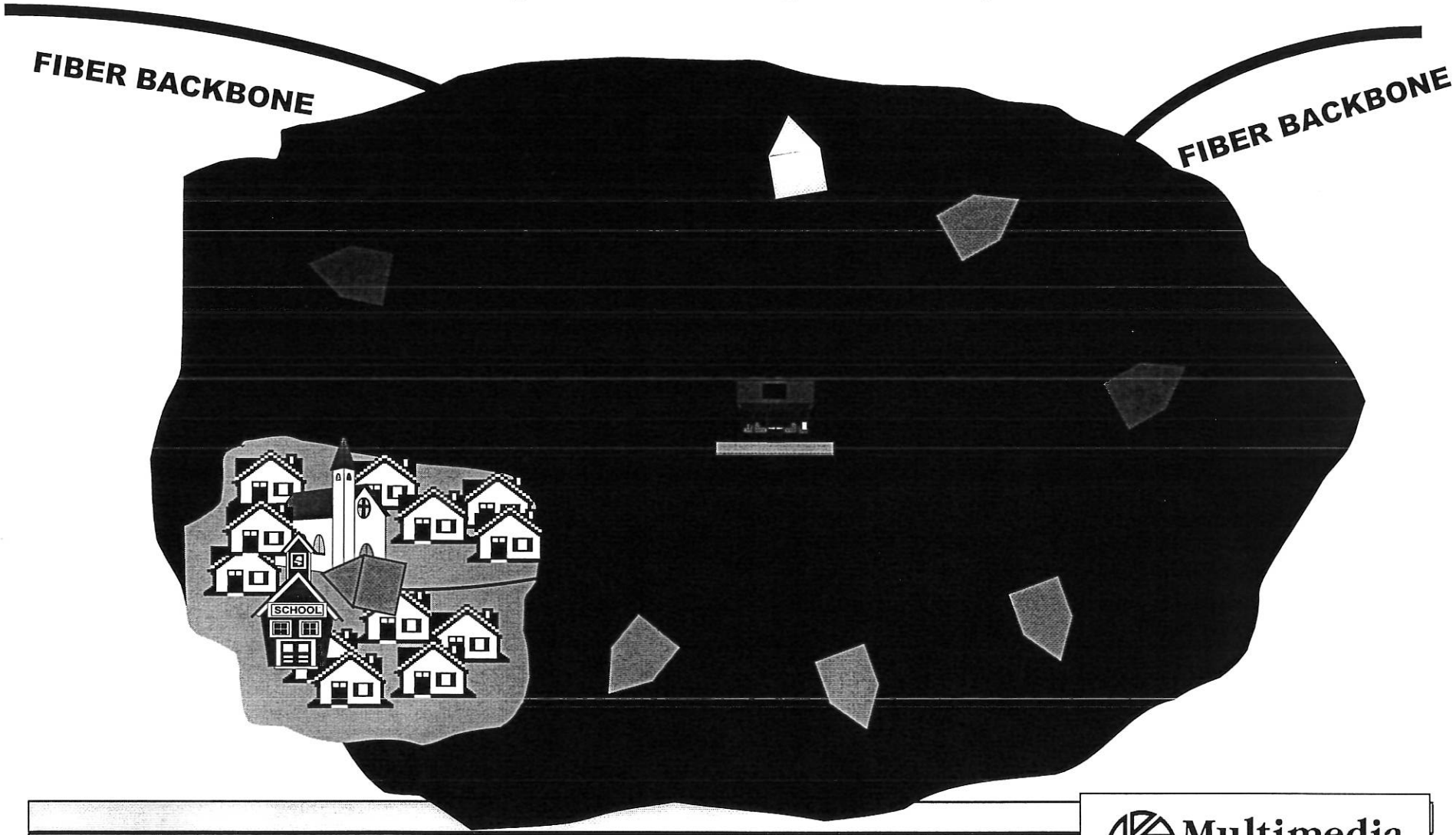


Multimedia Cablevision

TECHNOLOGY PROVIDED

- **HIGH SPEED INTERNET**
  - Road Runner High Speed Online INTERNET Service delivered anywhere we have cable.
- **WIDE AREA NETWORKS**
  - Fiber networks can be constructed throughout the state and can be custom tailored for your needs.
- **INTERACTIVE DISTANCE LEARNING**
  - Utilizing the latest advances in technology IDL networks can connect your site to the outside world.

Hybrid Fiber / Coax Cable Television System (HFC)



Multimedia Cablevision

Free Cable Television

We provide FREE cable television service to every School, Library and City buildings in our service areas

Cable in the Classroom provides 525 hours each week of commercial free educational programming

Multimedia Cablevision

Today Cable Television provides so much more!

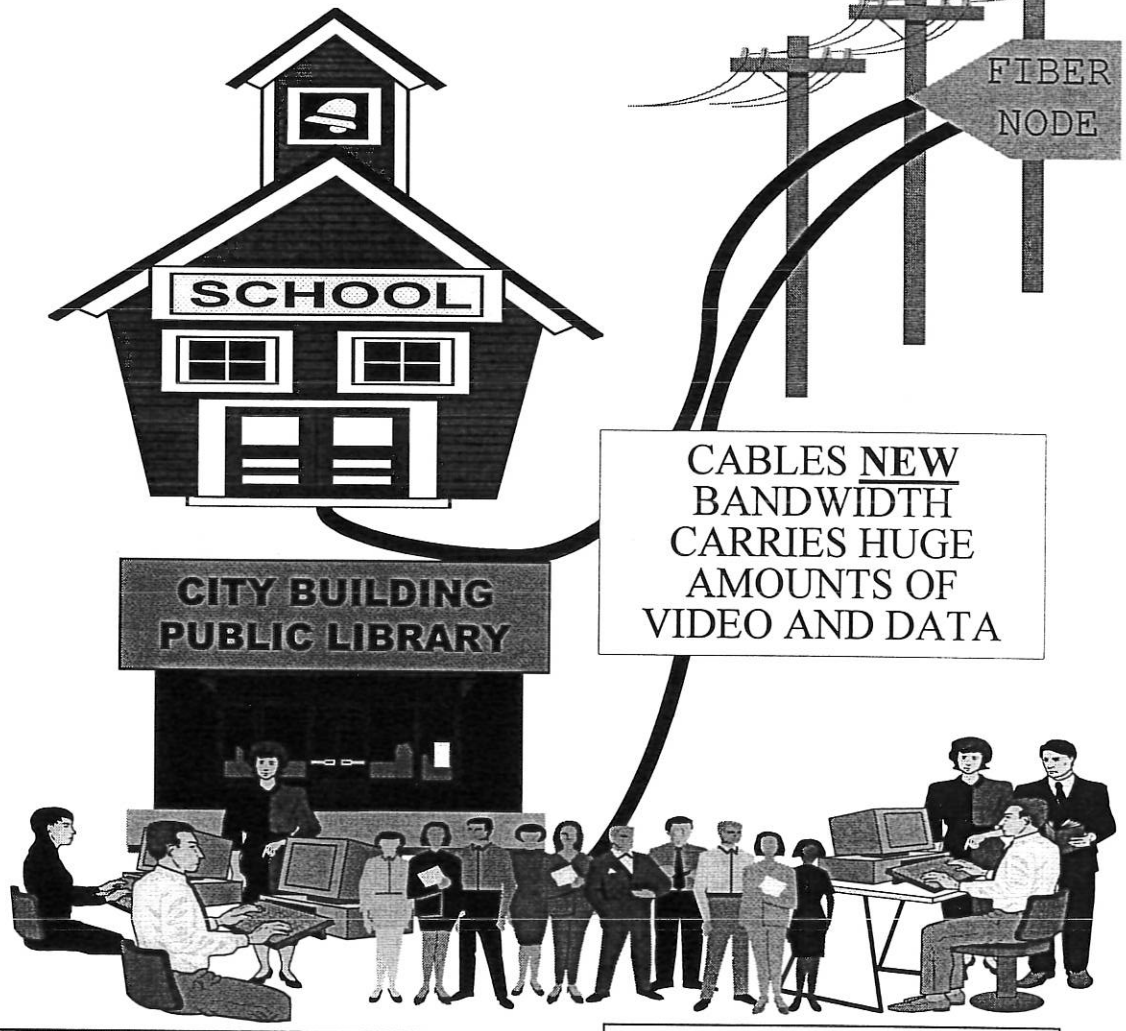
FREE CABLE TV

HIGHSPEED INTERNET

WEBTEACHER

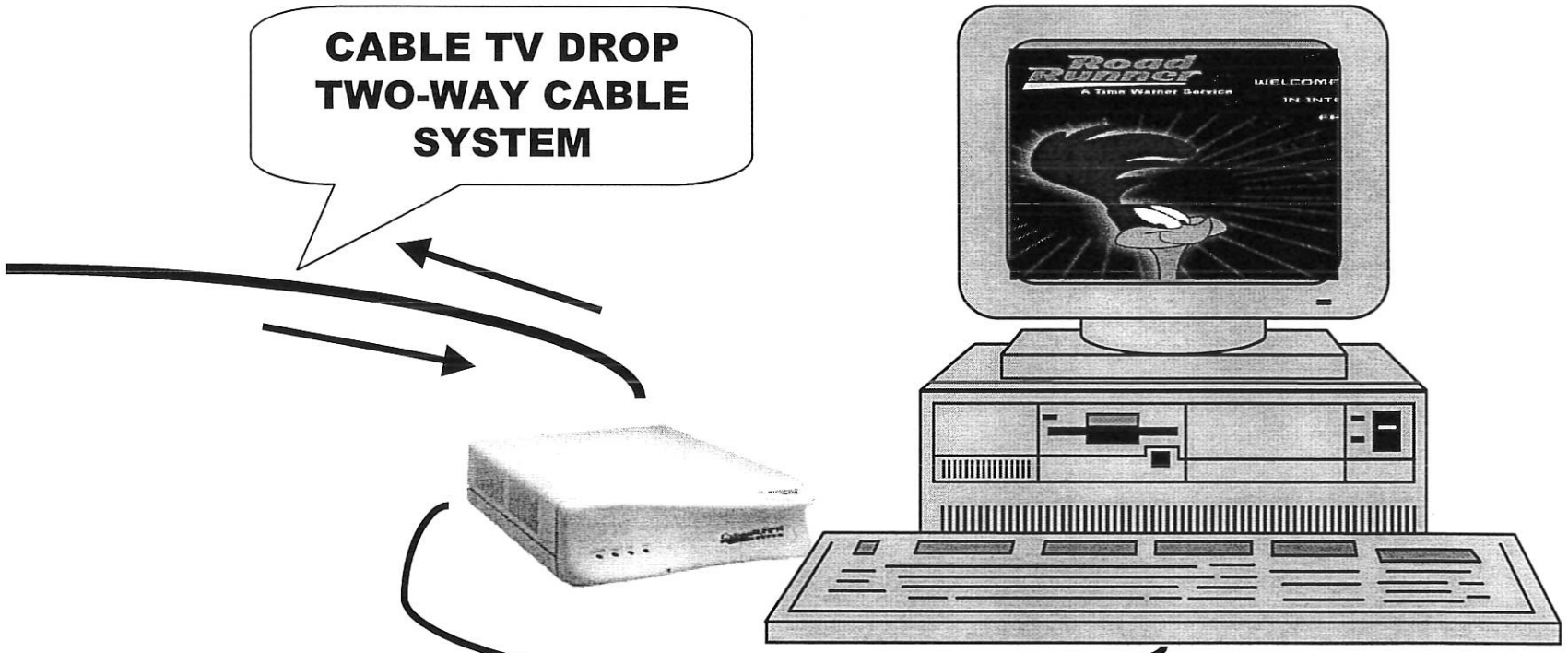
WIDE AREA NETWORKS

INTERACTIVE DISTANCE LEARNING



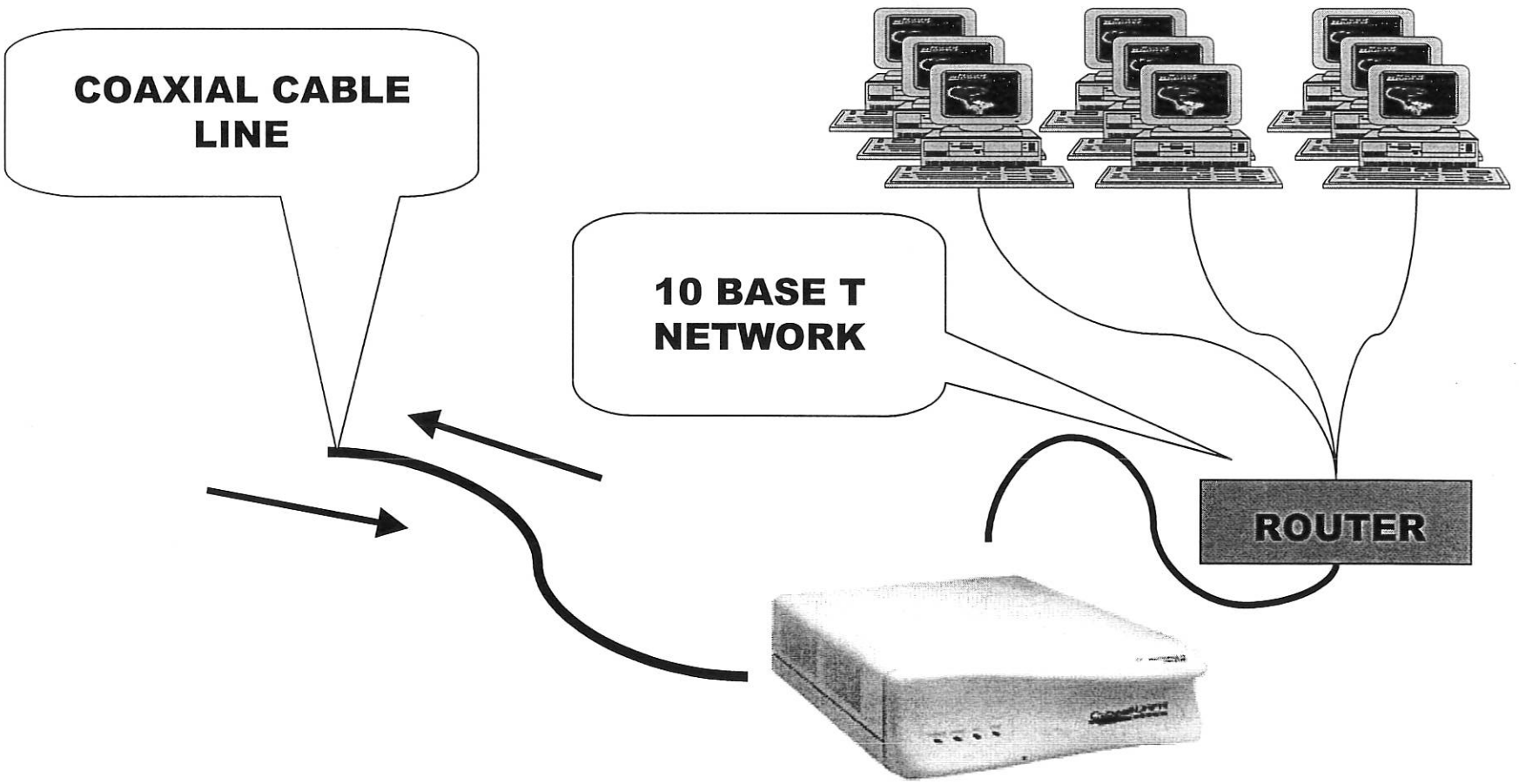
Multimedia Cablevision

CABLE MODEM CONNECTION TO PC



Multimedia Cablevision

CABLE MODEM TO NETWORK



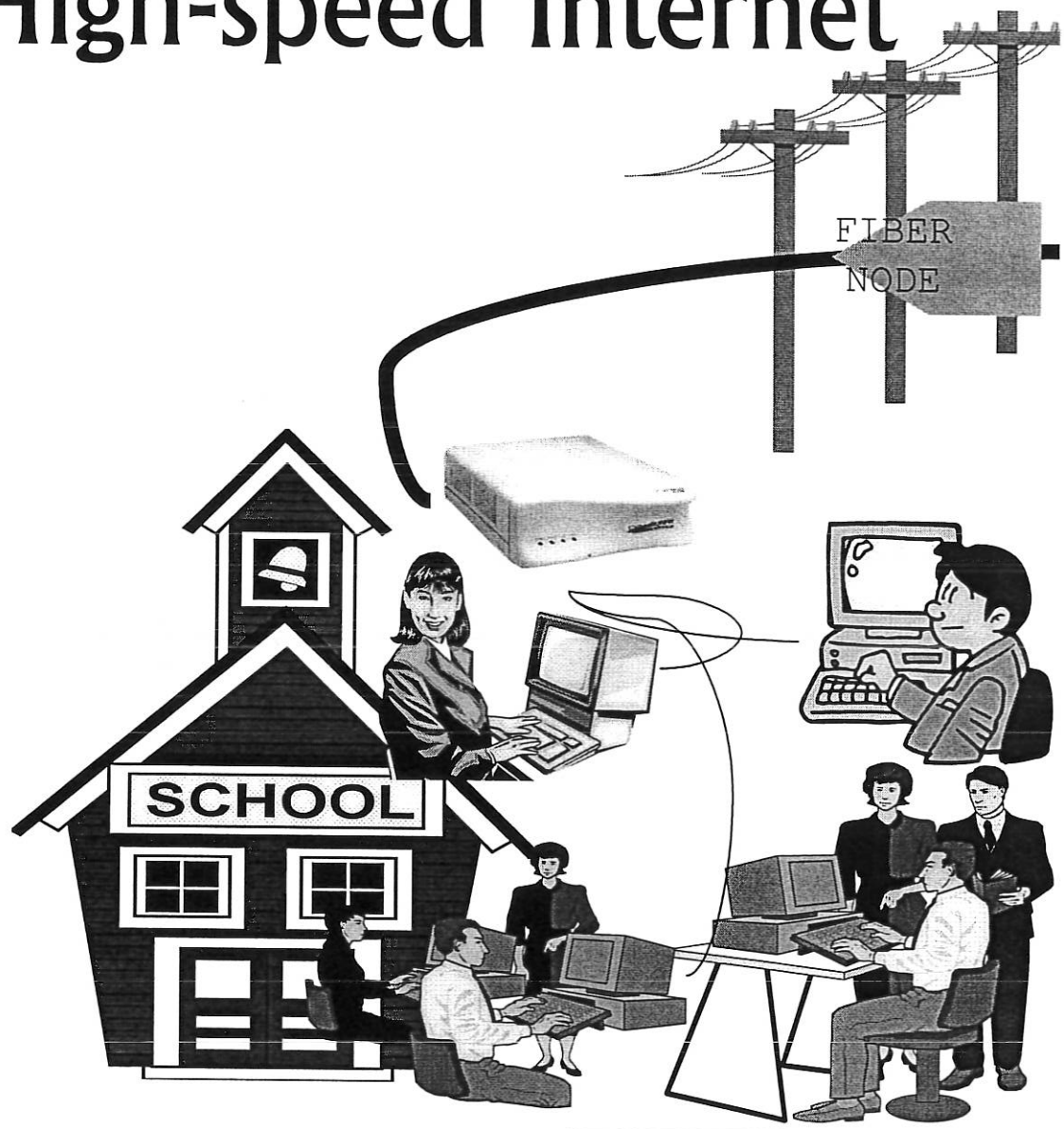
Multimedia Cablevision

5-12

Affordable High-speed Internet

With advanced *Cable Modem* technology, we provide high bandwidth Internet connections to a large number of Schools, Libraries and City Buildings in the state

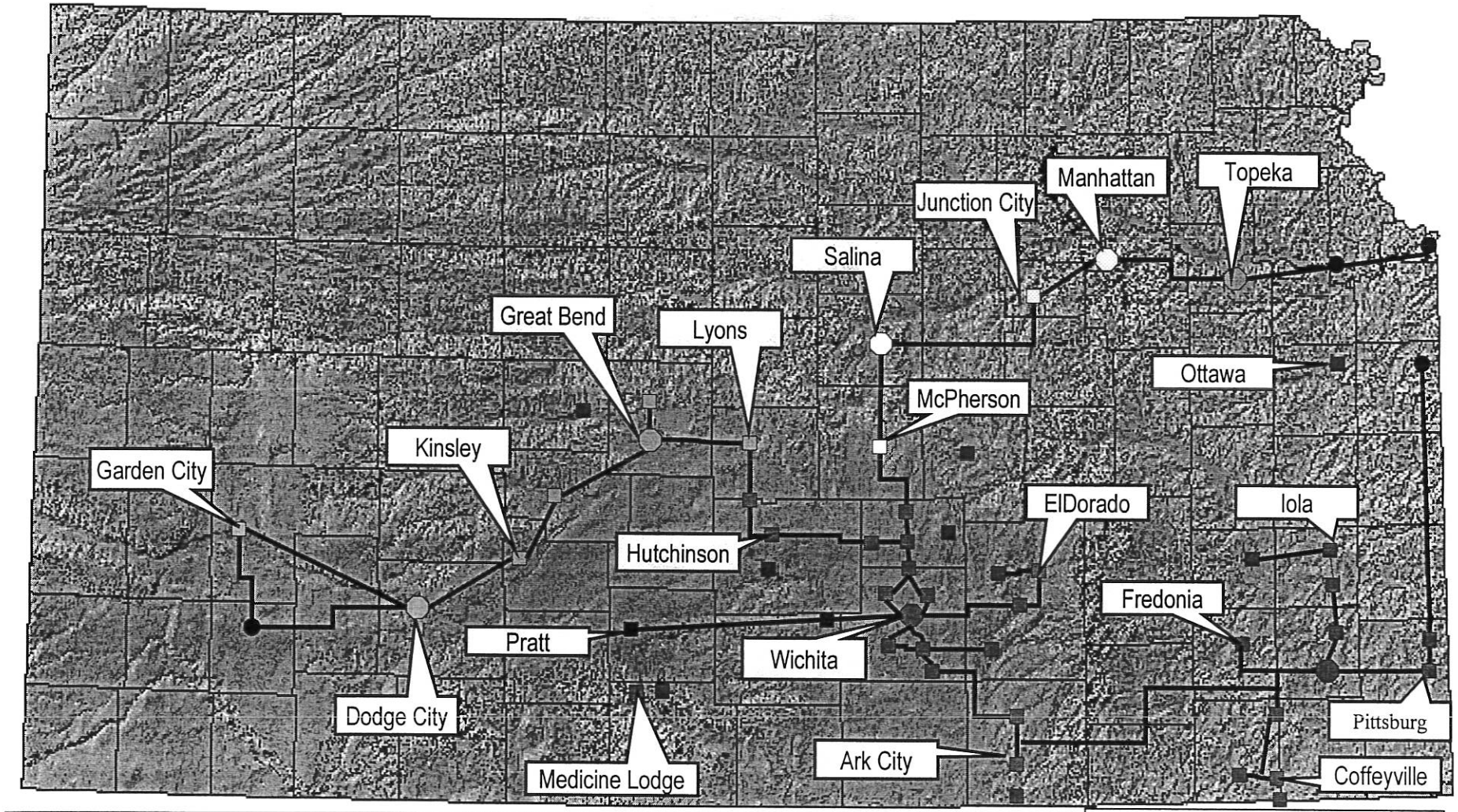
Typically $0 installation charge. Lower monthly cost/higher bandwidth.



Multimedia Cablevision

5-13

Statewide High Speed IP Backbone
(2000)



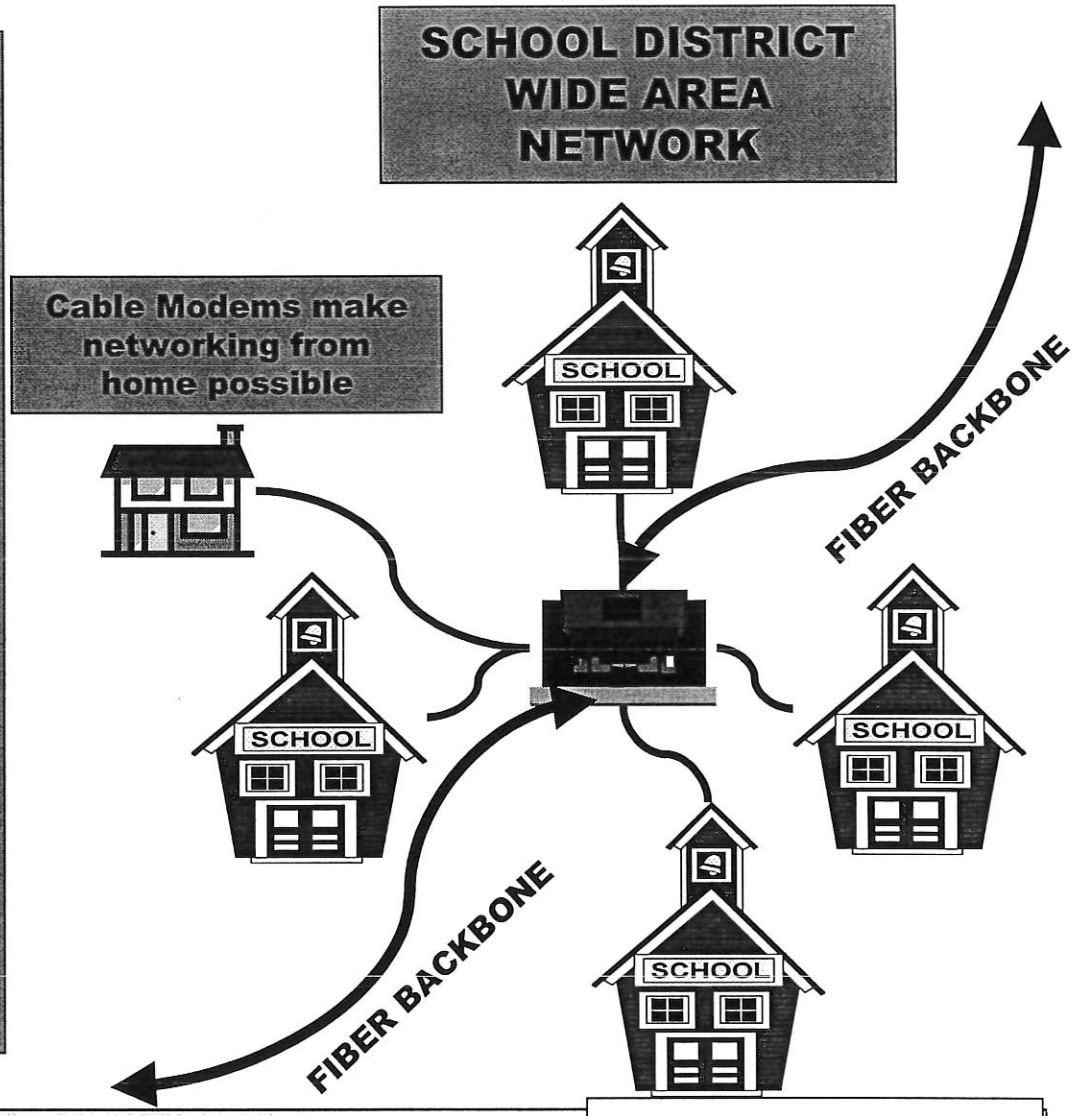
Multimedia Cablevision

Affordable Wide Area Networks

Using Fiber Optics and Cable Modem technology we provide high bandwidth Wide Area Network Connections for many Schools Districts in the state

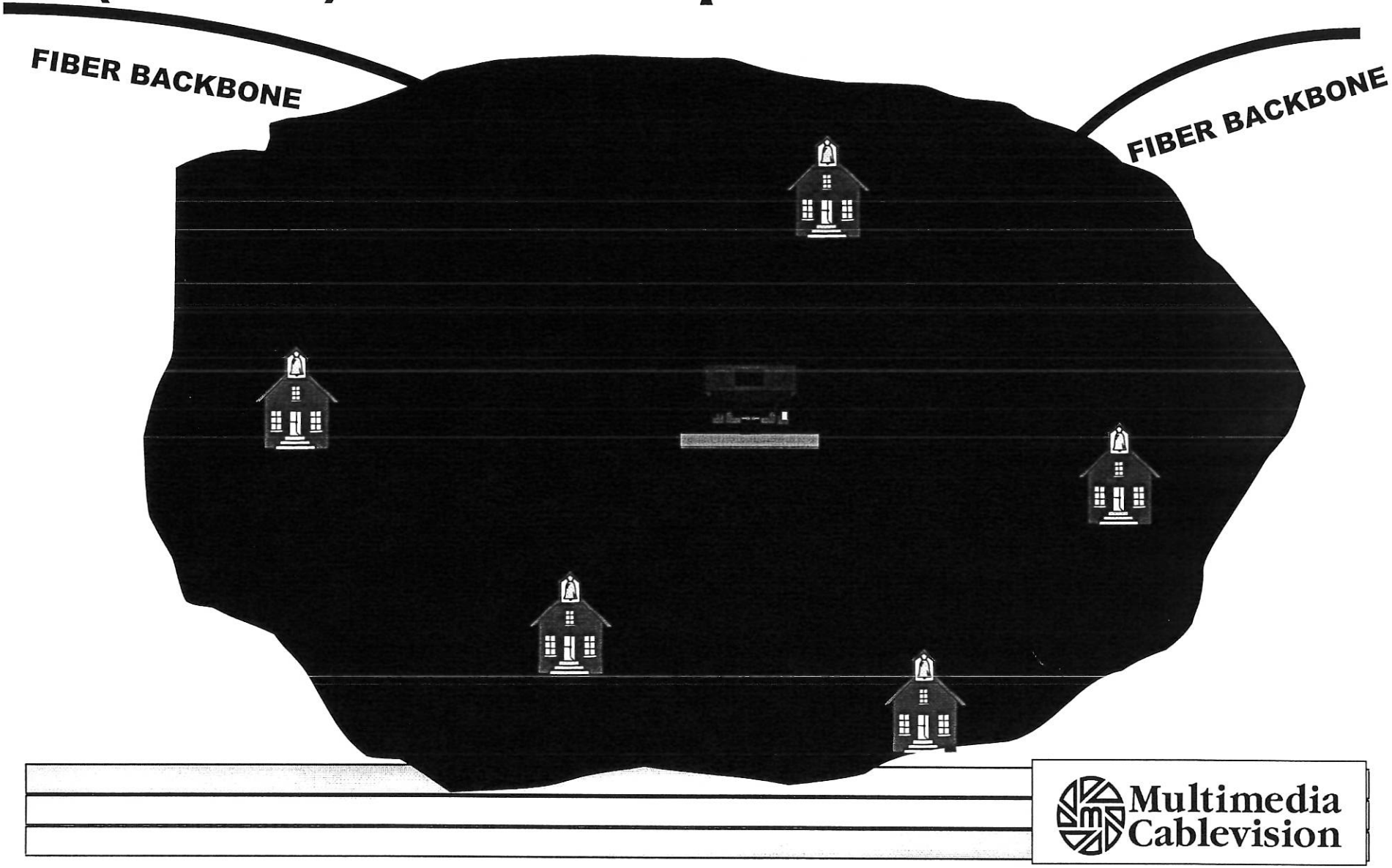
10 Mbps to 100 Mbps Networks.

Lower Price / Higher bandwidth, Winning Bids over any other Technology

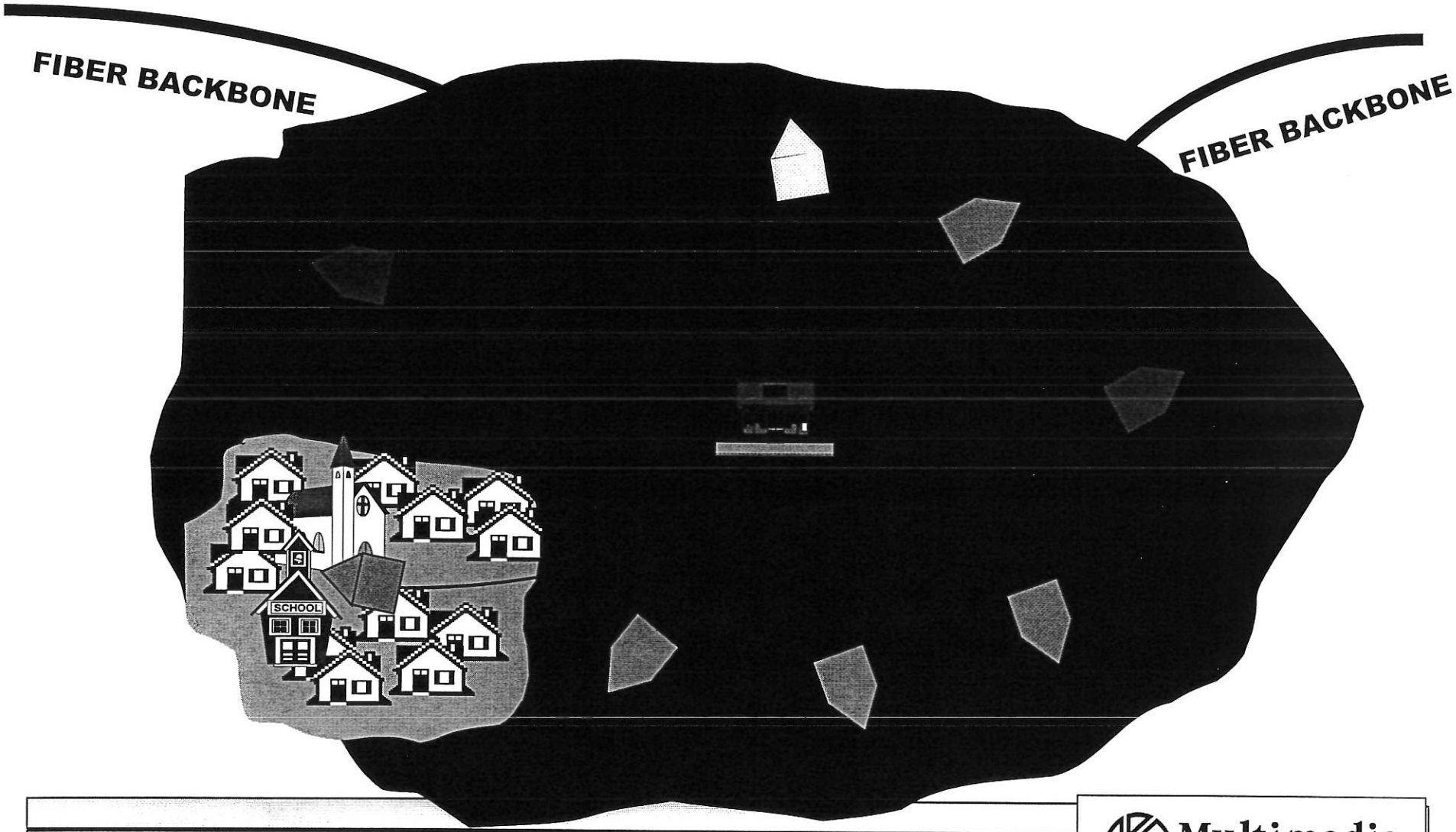


Multimedia Cablevision

Pittsburg School District (5 site) 100 Mbps Fiber Network



Wide Area Networks and HFC networks are similar



Multimedia Cablevision

Wide Area Networks

GREAT BEND SCHOOLS

5 SITE CABLE MODEM WAN with 2 residential

MCPHERSON SCHOOLS

9 SITE CABLE MODEM WAN with 4 residential

NEWTON PUBLIC SCHOOLS

10 SITE CABLE MODEM WAN

ELDORADO PUBLIC SCHOOLS

8 SITE CABLE MODEM WAN

Wide Area Networks

WICHITA PUBLIC SCHOOLS
12 SITE FIBER NETWORK

PITTSBURG SCHOOL DISTRICT
5 SITE FIBER NETWORK

WASHBURN SCHOOL DISTRICT
9 SITE FIBER NETWORK

HOISINGTON SCHOOLS
5 SITE CABLE MODEM WAN

5-19

Wide Area Networks

BARTON COUNTY CC

2 SITE CABLE MODEM WAN

HUTCHINSON COUNTY CC

2 SITE FIBER NETWORK

DERBY CITY HALL TO SEDGWICK COUNTY

2 SITE FIBER NETWORK

WICHITA STATE UNIVERSITY

2 SITE FIBER NETWORK

Multimedia Cablevision

5-20

Wide Area Networks

WINFIELD KS
COWLEY COUNTY CC
3 SITE FIBER NETWORK

HUTCHINSON CITY
5 SITE CABLE MODEM NETWORK

MANY OTHERS IN PROGRESS

We provide Interactive Distance Learning Technology

Using Fiber Optic and Cable Television Video Laser Technology we provide Interactive Distance Learning Systems. Connection to Fairfield provided through a Partnership with Cable and Rural Telephone

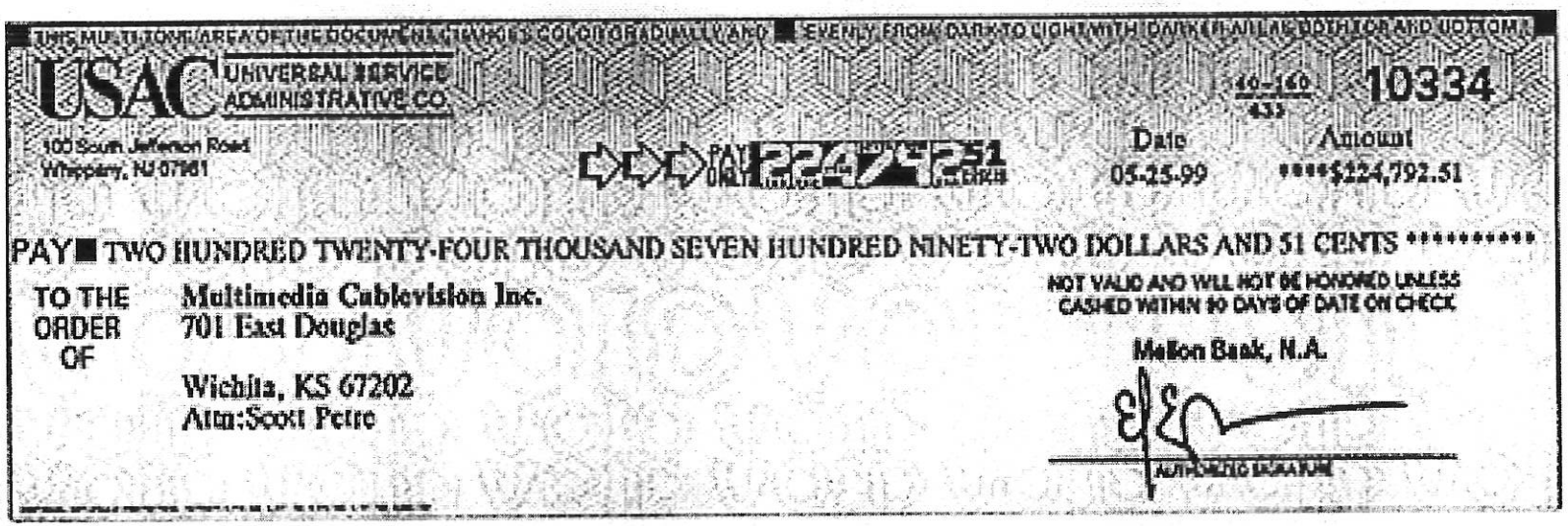
Multimedia Cablevision

5-22

Federal Universal Service Fund

1998 Federal Universal Service Fund

In 1998 we collected for the Wichita Public Schools one of the largest Federal USF checks in the state of Kansas in the amount of $224,792.51



USAC UNIVERSAL SERVICE ADMINISTRATIVE CO.
100 South Jefferson Road
Whippany, NJ 07981

10334

Date 05-25-99

Amount ****$224,792.51

PAY ■ TWO HUNDRED TWENTY-FOUR THOUSAND SEVEN HUNDRED NINETY-TWO DOLLARS AND 51 CENTS **********

TO THE ORDER OF
Multimedia Cablevision Inc.
701 East Douglas
Wichita, KS 67202
Attn:Scott Petre

NOT VALID AND WILL NOT BE HONORED UNLESS CASHED WITHIN 90 DAYS OF DATE ON CHECK

Mellon Bank, N.A.

⑈010334⑈ ⑆043016011⑆ ·045⑈7406⑈

Multimedia Cablevision

Federal Universal Service Fund

1999 Federal Universal Service Fund

In 1999 here is a list of Schools who the Funding percentage that the Federal Government is committing to for Technology in Schools.

Fairfield USD 310:	**70%**
Pittsburg USD 250:	**70%**
Hoisington USD 431:	**70%**
Great Bend USD 428:	**68%**
El Dorado USD 490:	**63%**
McPherson USD418:	**57%**
Newton USD 373:	**53%**
Burrton USD 369:	**50%**

In Summary

- Multimedia Cablevision has invested hundreds of millions of dollars in infrastructure in the state of Kansas and is deploying affordable Technology to Kansas Schools at a rapid pace.
- Cable offers broadband connections that can be installed economically in any community, rural or urban in the state.
- Cable's Fiber Optic technology provides greater bandwidth than T-1 connections.

Multimedia Cablevision

In Summary

- Schools should continue to take advantage of the Federal USF monies.
- Schools should be empowered to select their Technology Provider.
- Just as Multimedia partnered with South Central Telephone to reach Fairfield School, private enterprise is helping bring future technology to Kansas.

Multimedia Cablevision