

Approved: Carl R. Holmes
Date 4/29/94

MINUTES OF THE HOUSE COMMITTEE ON ENERGY AND NATURAL RESOURCES.

The meeting was called to order by Chairperson Carl Holmes at 3:30 p.m. on March 14, 1994 in Room 526-S of the Capitol.

All members were present except:

Committee staff present: Raney Gilliland, Legislative Research Department
Dennis Hodgins, Legislative Research Department
Mary Torrence, Revisor of Statutes
Shirley Wilds, Committee Secretary

Conferees appearing before the committee: Jim Morrison, KS State Representative
Don Low, KS Corporation Commission
Karen Flaming, KS Corporation Commission

Others attending: See attached list

Chairperson Holmes opened the meeting welcoming two Kansas Corporation Commissioners as guests attending today's hearing.

Hearing on HB 3061:

The Honorable Jim Morrison. (See Attachment #1) Representative Morrison reported to the Committee issues he considers important to the state of Kansas. First, the Federal Government is going to deregulate the telephone and telecommunications industry in a rather large way. One of the first steps in this process is federal HR 3626, the Antitrust and Communications and Reform Act. In general, Representative Morrison said this is going to change the local Bell Agency enabling them to become a long distance carrier, changes several geographic regulations currently in place, and will govern the pattern of business within this state and throughout the country.

Another bill (HR 3636, The National Communications Competition and Information Infrastructure Act), is a measure that will regulate the so-called anticipated super-highway. It will abolish the monopolies and restrict telephone companies from providing cable services and also on having territorial privileges, wherein they have exclusivity within an area. In essence, the intent is to deregulate the industry.

In Kansas, there is current legislation also addressing these issues. Representative Morrison is of the opinion the legislation does not go far enough with SB 655 and **SCR 1627**.

Senate Bill 655 establishes a group of 15 individuals to coordinate and direct more efficiently the communication resources for state agencies. This 15-member council would have four cabinet secretaries, four heads of state, an executive director of the Board of Regents, a Judicial Administrator, Chairman of Joint Committee on Computers and Telecommunications, two Governor-appointed private-sector representatives, Director of the Budget, Chief of Information and Architect and others. This Kansas Information Resources Council is attached to the Department of Administration and works only with the state agencies.

SCR 1627 stipulates another council group that collectively sets a state-wide strategic plan for telecommunications. Representative Morrison said this Resolution is put together well (like SB 655), but it is designed for advisory only.

SB 591 extends TeleKansas One and represents a "mid point" between TeleKansas One and Two, in terms of eventual outcome. This bill de-regulates, to some degree, Southwestern Bell specifically, so a statewide infrastructure involving fiber optics, etc. can be implemented.

Representative Morrison said the reason for his position on **HB 3061** is, first, that SB 651 must be stopped. He believes it does not go far enough since it deals only with state agencies, but should be with the entire state, and needs a more balanced makeup of the Board. Developing more bureaucracy dealing only with state agencies (as opposed to a statewide infrastructure) is inadequate. Secondly, he recommends making **SCR 1627** stronger (not simply advisory) - creating some authority in the measure. He personally feels it should have commission status enabling it to make rules and regulations and move entities into the competitive market place. Also, Representative Morrison would like to see the complete deregulation of telecommunications in the state.

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MINUTES OF THE HOUSE COMMITTEE ON ENERGY AND NATURAL RESOURCES, Room 526-S Statehouse, at 3:30 p.m. on March 14, 1994.

He has spoken with TCI and they are aggressively moving into the area of full-line digital communications for and between every home and every business. He said the legislature can either help or hinder progress of statewide telecommunications and benefit from economic growth that it presents, or we can sit back and await "turf battles" such as is seen in legislation that favors one company over another.

Representative Morrison contends that **HB 3061** is a first step in that deregulation and equalization process. There are many problems with removing exclusivity for an area. Still, the bill does force the state to move ahead quickly on what the Federal Legislature is already planning to mandate to all states in the very near future. He urges favorable support of this legislation.

Don Low. Mr. Low introduced Karen Flaming of the Kansas Corporation Commission to provide background information to the Committee.

Karen Flaming. (See Attachment #2) Ms. Flaming reviewed with the Committee several items related to this issue. Data provided:

- Information on current federal legislation.
- An over-sized map showing the actual certificated exchange boundaries of all the telephone companies that serve in Kansas and exchange boundaries for facilities
- state map indicating the one-party service status in the state of Kansas
- Summary information of the 36 independent telephone companies serving in the state (257 exchanges with an average exchange size of 368 customers)
- United Telephone service map (serves 159 exchanges with an average density of 829 customers per access line).
- Report of average on all the telephone companies indicating the relative size variance among the telephone companies and the average number of customers per exchange
- The cost of services for residential rates and one-party business rates for all the telephone companies in the state (the average Independent Telephone Company residential customer is paying \$6.75 monthly for service; United Telephone \$10.67 and Southwestern Bell \$11.52 per customer, per month).
- Interactive Video Networks diagram (updated as of February 1944)
- Booklet, "The Future is Now," detailing the interactive video clusters within the state.

Don Low. (See Attachment #3) Although primarily focusing his presentation on pending federal legislation, Mr. Low prefaced his remarks by addressing **HB 3061**. He said this bill prohibits the KCC from granting exclusive territorial rights to any telecommunications utility. The effects would depend upon how broadly it might be construed. He explained if the bill means that the certificates cannot be exclusive, but leaves the Commission with discretion to allow competition, it would not change current practice. However, he added, the bill could be interpreted to mean that at least one telecommunications competitor must be allowed to provide service. This would effect KCC decisions, including pending application by Competitive Access Provider.

With the federal legislation Mr. Low said the details are complex and vary, but it is apparent that legislation enacted will:

- 1) pre-empt states from maintaining barriers to entry in local exchange markets.
- 2) require telco's to provide equal access, interconnection, unbundled services to facilitate network of networks, and to establish inter-operation standards and address "number portability" issues.
- 3) Lift MFG "line of business" restrictions on Bell Operating Companies.
- 4) Modify rules regarding telco ownership and provision of video services and programming.
- 5) Requires examination of definition of "universal service" and funding mechanisms.

Currently, one of the primary goals of telecommunications regulation is promotion of universal service. This usually refers to the percentage of households that have "plain old telephone service" (POTS) - around 95% nationwide. In promoting universal service, an attempt has been made to keep basic local rates affordable, and the key factor is allocation of costs (especially joint and common costs among various services). Mr. Low said that currently 25% of costs are allocated to interstate access services, but about half of that is recovered through EUC at \$3.50 per month. The interstate access structure also contains a Universal Service

CONTINUATION SHEET

MINUTES OF THE HOUSE COMMITTEE ON ENERGY AND NATURAL RESOURCES, Room 526-S Statehouse, at 3:30 p.m. on March 14, 1994.

Fund mechanism, through which additional costs above national weighted average cost is recovered from IXCs. Mr. Low reported that on a national basis, companies with under 200,000 loops receive an average of \$6.74 through USF, which would otherwise need to be recovered in intrastate charges (this would be either through access, long distance or local rates, for a total of \$24 per month).

The competitive and technological changes will require re-examination of what services are to be promoted under Universal Service and how the funding will work. Also the conflict will be between attempting to provide all customers with access to the information age (new advances) and keeping rates affordable.

Mr. Low concluded by saying that transition to a full competition will not take place overnight and may require more active oversight than is practiced under the traditional regulations.

Upon completion of its business, the meeting adjourned at 5:20 p.m.

The next meeting is scheduled for March 15, 1994.



GUEST LIST

Committee: Energy and Natural Resources

Date: 3/14/94

NAME: (Please print)	Address:	Company/Organization:
Bruce Graham	Topeka	KEPTO
Martha Jenkins	KCMO	Sprint
Eva Dannels	Topeka	MCI
J.C. Long	Topeka	UtiliCorp-
Frank Caro	Topeka	SWBT
Larry Dinnitt	Topeka	SWBT
David Nichols	Topeka	SWBT
Doug Smith	Topeka	KANA
Sam Grant	TOPEKA	KHP
Quinn Melvin	TOPEKA	VICC
Don Low	"	KLC
Karen Matson-Flaming	"	KCO
Rachel Lipman	Topeka	KCC
Jack Alexander	Topeka	KCC
Rob Hodges	Topeka	Ks Telecom Assn.
Steve Hurst	Topeka	KWO
Randall Hahn	Pharm	
Rep. Mike Farmer	Topeka	Legislature
Bill Roche	Oven Road Pharm	UNITED TEL
JEFF RUSSELL	TOPEKA	SPRINT/UNITED
Mike Reacht	"	ATT
TREVA POTTER	"	MIDWEST ENERGY
ED SCHAUB	"	WESTERN RESOURCES
Woody Moses	"	Ks Aggregate Producers

STATE OF KANSAS

JIM MORRISON
REPRESENTATIVE, 121ST DISTRICT
3 COTTONWOOD DRIVE
COLBY, KANSAS 67701
(913) 462-3264
CAPITOL OFFICE 174-W
(913) 296-7676



TOPEKA

HOUSE OF REPRESENTATIVES

STATE CAPITOL
TOPEKA, KANSAS 66612-1504
COMMITTEE ASSIGNMENTS
PUBLIC HEALTH
EDUCATION
JOINT COMMITTEE ON COMPUTERS
& TELECOMMUNICATIONS

Testimony presented to the House committee on Energy and Natural Resources Monday, March 14, 1994 Regarding HB 3061

Thank you Chairman Holmes, and member of this committee, for allowing me the opportunity to help you help the State of Kansas become the leader in telecommunications in this country.

1) attention to Federal Government and telecommunications policy.

H.R. 3626 *The Antitrust and Communications Reform Act*
Addresses the restrictions placed on Regional Bell Co. & returns to states jurisdiction over intrastate long distance service and lifts ban within geographic service areas on long distance services.

H.R. 3636 *The National Communications Competition and information Infrastructure Act*
A massive bit of legislation ending local telephone monopolies and abolishing the current restrictions on telephone companies providing cable services.

2) attention to Regulatory Authority and change.

This Ks. Legislature and SB655 establishing KIRC for **State agencies** only.

SCR 1627 to develop **statewide** strategic plans for telecommunications but is advisory only.

SB 591 extends Telekansas I and represents a mid ground between Telekansas II and the old Telekansas. But this is singling out one of over 40 Bell co.

3) Points to look into:

*Energy & Natural Resources
Attachment #1
3/14/94*

- A. **Stop SB655** (in Governmental Org) as it does not go far enough -- it deals with state agencies and should deal with the entire state and be more balanced in its board.
- B. **Make SCR 1627 stronger**, with **commission** status. Make and encourage changes to increase implementation of what we know Feds are going to do.
- C. Request for **interim study** the mechanism of deregulation that I have alluded to.
- D. **TCI** is placing fiber right along with SW Bells copper in many places in this state. If we do not act methodically and quickly then Kansas will loose out on our natural positional advantage and the growth industry that is just beginning in telecommunications.
- E. Pass HB 3061 to **initiate the deregulation** and benefit the citizens of Kansas.

I believe that the phone companies of this state will assist the Legislature in achieving complete deregulation. If the Legislature does not move quickly to consider the entire statewide concerns for telecommunications, phone companies will loose the bulk of the future in communications to cable companies such as TCI who can quickly interconnect us with a complete digital communications system.

I have spoken with TCI and they are aggressively moving into the area of full-line digital communications for and between every home and every business. We can help or hinder progress of statewide telecommunications and benefit from economic growth that it presents or we can sit back and watch "turf battles" such as seen in legislation that favors one company over another.

HB 3061 is a first step in that deregulation and equalization process. There are many problems with removing exclusivity for an area. Still, the bill does force the state to move ahead quickly of what the Federal Legislature is already planning to mandate to all states in the very near future.

Thank you Mr. Chairman, for allowing discussion of this important issue. I urge your favorable report for HB 3061.

103RD CONGRESS -- FEDERAL LEGISLATION

SUMMARY OF PROVISIONS

ISSUE	H.R. 3636 (MARKEY-FIELDS)	S. 1822 (HOLLINGS)	S. 1086 (DANFORTH-INOUE)	H.R. 3626 (BROOKS-DINGELL)
LOCAL EXCHANGE COMPETITION				
OPEN LOCAL EXCHANGE TO COMPETITION	IMMEDIATE -- PREEMPTS STATES ON BARRIERS TO ENTRY	OPEN AFTER UNIVERSAL SERVICE FUNDING RESOLVED OR AFTER 2 YEARS, WHICHEVER IS EARLIER. STATES PREEMPTED ON BARRIERS TO ENTRY. STATES MAY IMPOSE COMPETITIVELY NEUTRAL STANDARDS	OPEN AFTER 1 YEAR, STATES ARE PREEMPTED ON BARRIERS TO ENTRY.	N/A
EQUAL ACCESS AND INTERCONNECTION DEFINED AND REQUIRED	YES. REASONABLE, NON-DISCRIM. ACCESS, UNBUNDLED FEATURES, FUNCTIONS & CAPABILITIES. JOINT BOARD TO STUDY & RECOMMEND. STATES PREEMPTED AGAINST PROHIBITING ACCESS & INTERCON. MUST PROVIDE ACTUAL COLLOCATION WHERE PRACTICAL. EXEMPTIONS FOR RURAL AREAS & SMALL TELCOS.	FCC TO ENCOURAGE CARRIERS AND MFGS TO DEVELOP STANDARDS. INTERCONNECTION ADDRESSED UNDER COMMON CARRIAGE REQUIREMENT SUBJECT TO TECHNICAL AND ECONOMIC FEASIBILITY, ALSO MARKET POWER EXEMPTION AND RURAL PROVISIONS.	YES, SUBJECT TO TECHNICAL FEASIBILITY, FCC SETS RULES	MFJ OBLIGATIONS CONTINUE
TARIFFS REQUIRED	FOR EQUAL ACCESS & INTERCON, COST-BASED RATES, UNBUNDLED, COST STUDIES REQUIRED.	N/A	N/A	N/A
RESALE OF TELEPHONE SERVICE	REQUIRED OF EXCHANGE SERVICE USED IN CONJUNCTION WITH TELECOM OR INFORMATION SERVICE, STATES PREEMPTED .	YES	YES, FCC TO SET RULES	N/A
SERVICES SUBJECT TO COMPETITION / PRICING FLEXIBILITY	ESTABLISHES PRICING FLEXIBILITY PROCEDURES FOR SERVICES SUBJECT TO COMPETITION; FCC DEVELOPS RULES TO DETERMINE WHETHER SERVICE HAS BECOME, OR "IS REASONABLY CERTAIN IMMINENTLY TO BECOME" COMPETITIVE.	FORBEARANCE FROM SOME REGULATION IF NO MARKET POWER FOR CERTAIN SERVICES OR GEOGRAPHIC MARKETS. PRICING FLEXIBILITY FOR SERVICES SUBJECT TO COMPETITION PERMITTED AT STATE AND FEDERAL LEVELS	PRICING FLEXIBILITY PERMITTED AT STATE & FEDERAL LEVELS IF CARRIER LACKS MARKET POWER MUST ENSURE BASIC RATES ARE REASONABLE AND UNIVERSAL. SERVICE IS PRESERVED.	N/A
NUMBER PORTABILITY	EQUAL ACCESS TO "CUSTOMER NUMBERS"	AS SOON AS TECHNICALLY FEASIBLE	AS SOON AS TECHNICALLY FEASIBLE	N/A
OTHER UTILITIES	N/A	OTHER PUBLIC UTILITIES MAY OFFER TELECOM SERVICES UNDER SAFEGUARDS OF AN "APPROPRIATE REGULATORY AGENCY".	N/A	N/A

N/A NOT ADDRESSED

CREATED FOR GENERAL REFERENCE ONLY; FOR SPECIFIC PROVISIONS, REFER TO BILL LANGUAGE

Energy & Natural Resources
 Attachment #2
 3/14/94

ISSUE	H.R. 3636 (MARKEY-FIELDS)	S. 1822 (HOLLINGS)	S. 1086 (DANFORTH-INOUE)	H.R. 3626 (BROOKS-DINGELL)
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UNIVERSAL SERVICE				
UNIVERSAL SERVICE	ALL TELECOM PROVIDERS SUPPORT JOINT BOARD TO RECOMMEND. FCC TO DEFINE AND ESTABLISH MECHANISM TO SUPPORT RECOMMENDATIONS WITHIN 270 DAYS.	ALL TELECOM PROVIDERS SUPPORT. FCC, WITH INPUT FROM STATES, SETS MINIMUM GUIDELINES AND PERIODICALLY REVIEWS. FCC DELEGATES ONGOING DEFINITION AND IMPLEMENTATION TO STATES, FEDS PREEMPT ONLY IF STATES DON'T ACT.	ALL TELECOM PROVIDERS SUPPORT. FEDS PREEMPT ONLY IF STATES DON'T ACT.	N/A
PUBLIC ACCESS AT REDUCED RATES	N/A	PREFERENTIAL RATES TO EDUCATION, HEALTH CARE, GOVERNMENTS, LIBRARIES, BROADCASTERS, NEWSPAPERS IN SMALL MARKETS	N/A	N/A
COMMON CARRIAGE	N/A	ALL PROVIDERS OF TELECOM SERVICES WILL BE COMMON CARRIERS -- INCLUDING INTERCONNECTION, UNBUNDLING, RESALE & SHARING, EXEMPTION FOR CARRIERS THAT LACK MARKET POWER	N/A	N/A
SERVICE QUALITY	FCC TO ESTABLISH RULES FOR RELIABILITY AND PERFORMANCE, SET MONITORING PROCEDURES.	N/A	N/A	N/A
REVIEW OF STANDARDS AND REQUIREMENTS.	FCC MUST HOLD PROCEEDING EVERY 3 YEARS TO EXAMINE ACCESS, UNIVERSAL SERVICE	N/A	N/A	N/A
STUDY OF RURAL AREAS	FCC STUDY REQUIRED	N/A	N/A	N/A
CONSUMER INFORMATION	N/A	FCC & STATES SHALL ENSURE THAT CONSUMERS HAVE INFO TO MAKE INFORMED CHOICES.	N/A	N/A
INFRASTRUCTURE SHARING	N/A	TELECOM CARRIERS REQUIRED TO SHARE WITH SMALLER CARRIERS, CARRIERS DEFINE TERMS & COND'TNS	N/A	N/A
DIGITAL / VIDEO SERVICES				
OPEN DIGITAL PLATFORM (END-TO-END DIGITAL CONNECTIVITY)	YES. FCC TO STUDY WITHIN 120 DAYS AND IMPLEMENT FINDINGS	N/A	N/A	N/A
INTEROPERABILITY STANDARDS	REQUIRED. FCC TO ESTABLISH STANDARDS, WITHIN 18 MONTHS, COORDINATE NETWORK PLANNING	REQUIRED -- ADDRESSED VIA COMMON CARRIAGE REQUIREMENT ON ALL TELECOM PROVIDERS, JOINT PLANNING PERMITTED.	FCC ENCOURAGES OR WILL SET STANDARDS IF NO AGREEMENT	N/A
RECIPROCAL COMPENSATION REQUIRED FOR DELIVERING TRAFFIC	N/A	YES, ALL PROVIDERS COMPENSATE EACH OTHER, NO MANDATORY NEGOTIATION PROVISION	YES, FCC DECIDES IF NEGOTIATIONS FAIL.	N/A

N/A. NOT ADDRESSED

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ISSUE	H.R. 3636 (MARKEY-FIELDS)	S. 1822 (HOLLINGS)	S. 1086 (DANFORTH-INOUE)	H.R. 3626 (BROOKS-DINGELL)
CABLE BUYOUTS PERMITTED ?	NO, BUT FOR THREE EXCEPTIONS RURAL AREAS (RAISED TO 10,000 LINES), JOINT VENTURES THAT SERVE < 10% OF HOMES IN TELCO SERVING AREA, AND IF GIVEN A WAIVER FOR CABLE SYSTEMS THAT WOULD NOT OTHERWISE BE ECONOMICALLY VIABLE, MAY HAVE INBOUND TELEMARTETING IF PROVIDED ON SAME TERMS TO OTHERS;	WITHIN FRANCHISE AREA, UNDER 5% INTEREST ONLY, RURAL EXEMPTION FOR LESS THAN 2,500 LINES	WITHIN FRANCHISE AREA, UNDER 5% INTEREST ONLY	N/A
IN TELEPHONE SERVICE AREA, VIDEO PROGRAMMING AUTHORIZED ?	YES, AFTER VIDEO DIAL TONE PLATFORM OFFERED	YES, AFTER TELCO OFFERS SERVICE IN DOMPLIANCE WITH INFRASTRUCTURE OBLIGATIONS.	YES, AFTER APPROVAL OF TARIFFS FILED TO MEET INFRASTRUCTURE OBLIGATIONS.	N/A
SEPARATE VIDEO SUBSIDIARY REQUIRED OF THE LECs	YES - RURAL EXEMPTIONS INCLUDED; FCC MAY WAIVE AFTER 5 YEARS.	YES. RURAL EXEMPTION & LOW MARKET POWER EXEMPTION POSSIBLE	YES, AND SEPARATE MARKETING AND SALES, NO JOINT VENTURES WITH TELCO	N/A
VIDEO PLATFORM REQUIRED	YES, FOR ANY CARRIER THAT PROVIDES VIDEO PROGRAMMING; RURAL EXEMPTIONS INCLUDED	N/A	N/A	N/A
CABLE FRANCHISE REQUIRED	YES	YES	YES	N/A
LEC ALLOWED TO JOINT MARKET CABLE SERVICES	NO, WITH EXCEPTIONS	N/A	N/A	N/A
SEPARATE TELEPHONY SUBSIDIARY REQUIRED OF CABLE OPERATORS	FCC RULES REQUIRED TO PREVENT CROSS-SUBSIDIZATION	YES, MAY BE EXEMPTED IF THEY LACK MARKET POWER.	YES, BUT NO CROSS SUBSIDIZATION ALLOWED.	N/A
CABLE OPERATORS ALLOWED TO BUY LEC OPERATIONS	N/A	UP TO 5% INTEREST ONLY. NO JOINT VENTURES ALLOWED UNLESS FURTHERS LOCAL EXCHANGE COMPETITION	N/A	N/A
ALLOCATION OF COSTS	JOINT BOARD TO STUDY ALLOCATION & SEPARATION OF VIDEO PLATFORM, REG & NONREG SERVICES, PREVENT CROSS-SUBSIDIZATION.	REQUIRES FCC TO SET RULES TO ALLOCATE BETWEEN LOCAL EXCHANGE SERVICE AND COMPETITIVE SERVICES	N/A	N/A
LINE-OF-BUSINESS RESTRICTIONS				
MANUFACTURING RELIEF	N/A	YES. SAME AS S. 173 (HOLLINGS MANUFACTURING BILL FROM 102ND CONGRESS	N/A	N/A
INTERLATA WIRELESS PERMITTED	N/A	GRANDFATHERS WAIVERS -- HAND- OFF, CALL DELIVERY, BUT IMPOSES EQUAL ACCESS	GRANDFATHERS WAIVERS HAND- OFF, CALL DELIVERY, BUT IMPOSES EQUAL ACCESS	APPLY IMMEDIATELY UNDER FCC/DOJ PROCEDURES
INTERLATA INFORMATION SERVICES PERMITTED	N/A	N/A	N/A	APPLY IMMEDIATELY UNDER FCC/DOJ PROCEDURES
INTERLATA VIDEO PERMITTED	N/A	YES, THROUGH SUB, SEPARATE FROM TELCO INTERLATA FOR ONE-WAY CABLE OPERATIONS ONLY	YES, THROUGH SUB, SEPARATE FROM TELCO INTERLATA FOR ONE WAY CABLE OPERATIONS ONLY	APPLY IMMEDIATELY UNDER FCC/DOJ PROCEDURES

N/A. NOT ADDRESSED

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ISSUE	H.R. 3636 (MARKEY-FIELDS)	S. 1822 (HOLLINGS)	S. 1086 (DANFORTH-INOUE)	H.R. 3626 (BROOKS-DINGELL)
INTRASTATE INTERLATA PERMITTED	N/A	N/A	N/A	YES, 60 DAY NOTICE PERIOD REQUIRED SUBSEQUENT TO STATE PUC AUTHORIZATION
INTERLATA RESALE PERMITTED OVER NONAFFILIATE'S FACILITIES	N/A	N/A	N/A	1) IMMEDIATELY, WITH INTRA- EXCHANGE TOLL DIALING PARITY, 45 DAY NOTICE, NO DOJ INJUNCTION, OR 2) APPLY AFTER 18 MONTHS FROM ENACTMENT
INTERLATA FACILITIES BASED PERMITTED ON AN INTRAREGION BASIS	N/A	N/A	N/A	APPLY IMMEDIATELY UNDER FCC AND DOJ PROCEDURES
INTERLATA FACILITIES BASED PERMITTED ON A NATIONWIDE BASIS	N/A	N/A	N/A	APPLY TO FCC/DOJ 60 MONTHS FROM ENACTMENT
IN-MARKET TEST REQUIRED BEFORE INTERLATA GRANTED	N/A	YES. 1) MARKET POWER TEST, 2) REGULATORY REFORM PROVISIONS MUST BE IMPLEMENTED, AND 3) ACTUAL AND DEMONSTRABLE COMPETITION	N/A	N/A
OUT-OF-MARKET TEST REQUIRED BEFORE INTERLATA GRANTED	N/A	YES. MARKET POWER TEST ONLY	N/A	N/A
SEPARATE SUBSIDIARY REQUIRED FOR INTERLATA SERVICES	N/A	YES	N/A	N/A
APPLICATION PROCESS ESTABLISHED FOR MFJ RELIEF	N/A	FCC DETERMINES INTEREXCHANGE ENTRY AFTER CONSULTATION WITH DOJ	N/A	DOJ AND FCC ISSUE ORDERS WITHIN 180 DAYS OF APPLICATION FILING
STANDARD AT DOJ	N/A	VIII(C) MARKET POWER TEST	N/A	VIII(C)
STANDARD AT FCC	N/A	IN-MARKET AND OUT-OF-MARKET TESTS	N/A	PUBLIC INTEREST
APPELLATE RIGHTS	N/A	N/A	N/A	45 DAYS, ANY INJURED PERSON
STAYS REQUIRED	NO	NO	NO	NO
PRIVATE RIGHTS OF ACTION EXPRESSLY CREATED	N/A	N/A	N/A	TREBLE DAMAGES, INJUNCTIONS
ELECTRONIC PUBLISHING	N/A	MODIFIED NEGOTIATED DEAL, SEPARATE SUB, JOINT VENTURES, LIMITED JOINT MARKETING, AUDITS, PERSONNEL LIMITS, SUNSETS 6/30/2000	YES. THROUGH SEPARATE SUB	NEGOTIATED DEAL, SEPARATE SUB, JOINT VENTURES, LIMITED JOINT MARKETING, AUDITS, PERSONNEL LIMITS, SUNSETS 6/30/2000
ALARM MONITORING	N/A	APPLY TO FCC AFTER 66 MONTHS, AT 72 MONTHS FCC HAS AUTHORITY TO GRANT ENTRY, DOJ MUST ALSO HAVE A VIII(C) FINDING, FCC RULES IN PLACE NO LATER THAN 6 YEARS (72 MONTHS) FROM ENACTMENT	N/A	APPLY TO FCC AND DOJ AFTER 66 MONTHS FROM ENACTMENT, FCC RULES IN PLACE NO LATER THAN 6 YEARS (72 MONTHS) FROM ENACTMENT
PREEMPTS STATE REGULATION OF INFORMATION SERVICES	N/A	YES	N/A	N/A

N/A. NOT ADDRESSED

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TELECOMMUNICATIONS COMPETITION

Introduction. Competition has been increasing in the telecommunications industry since the mid-1980's. Although some competition started before then, the breakup of the Bell system in 1984 and the prior deregulation of telephone equipment used by customers (Customer Premises Equipment-"CPE") were major steps. The breakup of the Bell system in a Justice Department antitrust lawsuit was premised on the idea that the such an integrated system unfairly prevented the development of competition.

Consequently, the settlement embodied in the Modified Final Judgment ("MFJ"), was intended to open up competition in the long distance market by restricting the seven Regional Bell Operating Companies ("RBOC's") to providing service only within areas called Local Access and Transport Areas ("LATA's"). In Kansas, there are three LATA's corresponding to the 913 and 316 area codes with a separate LATA around the Kansas City metropolitan area. This restriction was intended to prevent the RBOC's from using their control of the "bottleneck" local exchange facilities in anticompetitive ways. Other "line of business" restrictions were also intended keep the RBOC's from exploiting their monopoly of the local exchanges to prevent competition in design and manufacture of telecommunications equipment and in the provision of "information services." These restrictions have subsequently been reviewed by the Court administering the MFJ and the "information services" restriction has been lifted. However, despite requests to the Court and Congressional activity, the manufacturing and interLATA restrictions are still in place.

Current Status of Competition

Inter-LATA long distance. Competition for long distance services between LATA's has developed substantially since 1984 due to the "equal access" requirements imposed by the FCC, as part of the implementation of the MFJ. In order to ensure that the spun-off AT&T did not receive unduly favorable treatment from not just the RBOC's but all local telephone companies (Local Exchange Companies - "LEC's"), they are required to allow all long distance companies (interexchange carriers - "IXC's") access (use of) to the local distribution networks for origination and termination of long distance calls. The IXC's pay the LEC's for use of the local facilities according to access charges approved by the FCC and state commissions. In areas served by appropriate switches,

customers are allowed to choose (presubscribe) which IXC will provide their interLATA service on a "1+" dialing basis. In addition to the larger IXC's, such as AT&T, MCI and Sprint, customers may choose from dozens of other national carriers, as well as local and regional resellers. However, because of the switch costs, "presubscription" equal access has not been available in most of the rural areas served by independent telephone companies. This is changing due to the KCC's recent authorization of KIN Net to provide centralized equal access.

Intra-LATA long distance. Except for some long distance services used by large customers, such as 800 and WATS, there is limited competition with SWB in the intraLATA long distance market. Until last year's KCC order, SWB (and to a very minor extent, United Telephone Company) was the only authorized provider of intraLATA calls. This meant that SWB either blocked such calls or was compensated extra amounts by the IXC's when such calls could not be blocked, due to the technical nature of the calls. Last year, Kansas became one of the last states to authorize intraLATA competition for all long distance services, except "1+" MTS. Because of the technical and cost questions involving customer presubscription on an intraLATA basis, few states have required the LEC's to offer such customer choice. The lack of 1+ equal access has historically meant that few customers went to the effort of dialing extra numbers to use another carrier for intraLATA service. The KCC found, based on the evidence in the record, such as SWB's loss of only 10% of MTS volumes after ten years of competition in Texas, that SWB and its customers would not be adversely affected by such limited competition.

Access services. The IXC's are largely dependent on the LEC's local distribution facilities to originate and terminate the calls from the customer's premises to the IXC's networks. The use of the LEC facilities by the IXC's is known as "access service" and is provided pursuant to federal and state tariffs. Such services are either "switched" so that the calls are routed by the LEC's central offices or are "special" so that the calls are carried over a LEC dedicated line between the IXC and a large customer. The LEC access services can be bypassed if the customer is large enough to economically build private facilities to the IXC facilities or if there is a "Competitive Access Provider (CAP)" as an alternative to the LEC. Such CAP's have been authorized by the FCC and several states in the larger metropolitan areas, where they have built "fiber rings" aimed at providing access to the larger customers. On a national basis, CAP's have less than 1% of the access market. No CAPs are authorized to provide intrastate access in Kansas, although one application is pending.

STATE OF KANSAS
TELEPHONE COMPANY ACCESS LINES & EXCHANGES

INDEPENDENT TELEPHONE CO'S OF KANSAS: (1992 DATA)

TOTAL NUMBER OF INDEPENDENT TELEPHONE CO.'S	<u>36</u>
TOTAL NUMBER OF EXCHANGES	<u>257</u>
AVG NUMBER OF EXCHANGES PER TELEPHONE CO.	<u>7.14</u>

ACCESS LINES:

BUSINESS	19,073
RESIDENCE	<u>75,623</u>
TOTAL ACCESS LINES	<u>94,696</u>

AVG. ACCESS LINE PER EXCHANGE:

BUSINESS	74
RESIDENCE	<u>294</u>
TOTAL AVG. ACCESS LINE PER EXCH.	<u>368</u>

UNITED TELEPHONE COMPANIES: (1993 DATA)

TOTAL NUMBER OF EXCHANGES	159
-UNITED TELEPHONE CO. OF KANSAS	
-UNITED TELEPHONE CO. OF ARKANSAS	
-UNITED TELEPHONE CO. OF MISSOURI	
-UNITED TELEPHONE CO. OF IOWA	
TOTAL CUSTOMERS	<u>131,811</u>
TOTAL AVG. ACCESS LINE PER EXCH.	<u>829</u>

SOUTHWESTERN BELL: (1992 DATA)

TOTAL NUMBER OF EXCHANGES	133
TOTAL CUSTOMERS	<u>1,125,180</u>
TOTAL AVG. ACCESS LINE PER EXCH.	<u>8,460</u>

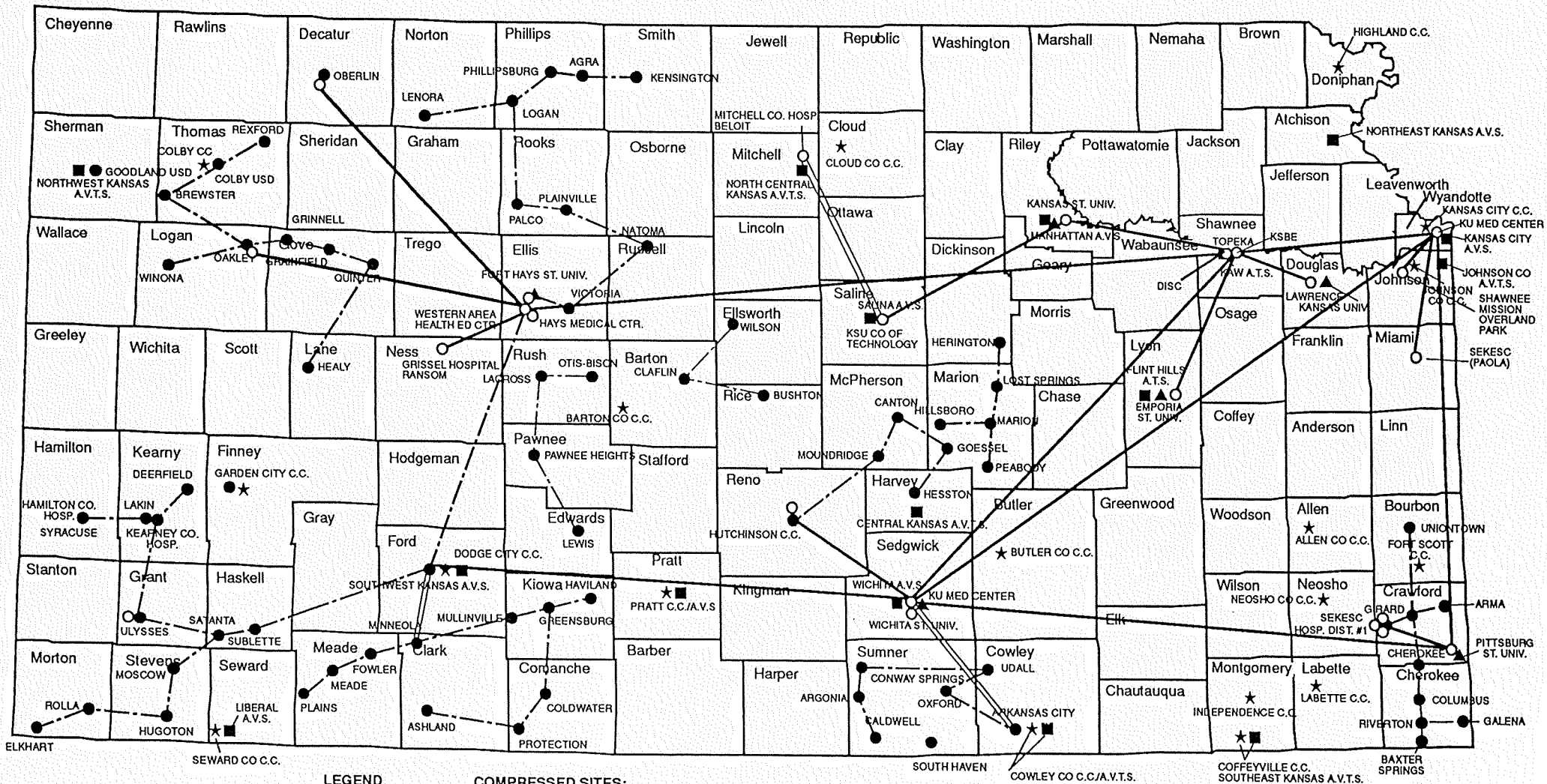
	NO. OF EXCH	ACCESS LINES			AVG ACCESS LINES PER EXCH		
		BUS.	RES.	TOTAL	BUS.	RES.	TOTAL
Assaria	1	95	365	460	95	365	460
Blue Valley	10	414	2,243	2,657	41	224	266
Columbus	1	615	1,411	2,026	615	1,411	2,026
Council Grove	1	476	1,430	1,906	476	1,430	1,906
Craw-Kan	29	1,614	10,169	11,783	56	351	406
Cunningham	6	228	1,207	1,435	38	201	239
Elkhart	1	445	931	1,376	445	931	1,376
Golden Belt	16	590	2,851	3,441	37	178	215
Gorham	2	107	230	337	54	115	169
H&B Comm.	3	141	760	901	47	253	300
Haviland	12	577	3,041	3,618	48	253	302
Home	4	209	1,069	1,278	52	267	320
JBN	13	287	2,030	2,317	22	156	178
KanOkla	10	326	1,780	2,106	33	178	211
LaHarpe	1	35	340	375	35	340	375
Madison	2	148	582	730	74	291	365
MoKan	3	406	1,827	2,233	135	609	744
Moundridge	2	564	1,801	2,365	282	901	1,183
Mutual	1	104	349	453	104	349	453
Peoples	1	211	904	1,115	211	904	1,115
Pioneer	15	4,067	8,151	12,218	271	543	815
Rainbow	8	212	1,552	1,764	27	194	221
Rural	26	1,135	5,100	6,235	44	196	240
S&A	2	78	733	811	39	367	406
S&T	8	351	1,219	1,570	44	152	196
South Central	6	172	852	1,024	29	142	171
Southern KS	14	534	3,352	3,886	38	239	278
Sunflower	7	1,083	2,888	3,971	155	413	567
Totah	6	100	1,078	1,178	17	180	196
Tri-County	13	361	2,756	3,117	28	212	240
Twin Valley	6	838	1,779	2,617	140	297	436
United Tele. Assoc.	10	1,276	3,720	4,996	128	372	500
Wamego	3	663	3,466	4,129	221	1,155	1,376
Wheat State	6	215	1,795	2,010	36	299	335
Wilson	7	363	1,676	2,039	52	239	291
Zenda	1	33	186	219	33	186	219
TOTAL	257	19,073	75,623	94,696	74	294	368

2-10

		RATES - CITY						RATES - RURAL					
		BUSINESS			RESIDENTIAL			BUSINESS			RESIDENTIAL		
		1 PTY	2 PTY	4 PTY	1 PTY	2 PTY	4 PTY	1 PTY	2 PTY	4 PTY	1 PTY	2 PTY	4 PTY
	
Assaria		\$7.75			\$5.00								
Blue Valley		8.25			6.75			8.25			6.75		
Columbus		5.00			3.50								
Council Grove		8.80			5.30	4.30				7.05			4.30
Craw-Kan		11.00			7.50			11.00			7.50		
Cunningham		10.05			6.30			10.05			6.30		
Elkhart		16.30			10.10			16.30			7.90		
Golden Belt		10.50			7.40			10.50			7.40		
Gorham		7.75			4.75			7.75		6.25	4.75	4.00	5.00
H&B Comm.		7.30			4.80			7.30			4.80		
Haviland		7.70			4.70			7.70			4.70		
Home		12.00			7.50			12.00			7.50		
JBN	A	15.30			10.14			15.30			10.14		
KanOkla	A	10.64			7.24			10.64			7.24		
LaHarpe		9.00			6.50		6.00	9.00			6.50	6.25	6.75
Madison		12.70			7.90			12.70			7.90		
MoKan		9.70			6.20			9.70			6.20		
Moundridge		10.50			6.75			10.50			6.75		
Mutual		6.60			4.60			6.60			4.60		
Peoples		13.05			9.15			13.05			9.15		
Pioneer	A	6.86			4.20			6.86			4.20		
Rainbow	A	11.86			7.88			11.86			7.88		
Rural		10.50			6.95			10.50			6.95		
S&A	A	9.73			7.63			9.73			7.63		6.30
S&T		18.60			11.60						11.60		
South Central	A	7.75			4.25			7.50			4.25		
Southern KS	A	7.56			5.25	3.90		7.56		6.50	5.25	4.43	4.55
Sunflower	A	10.50			6.13			10.50			6.13		
Totah		10.25			7.50			10.25			7.50		
Tri-County	A	10.25			6.50			10.25			6.50		
Twin Valley		9.85			6.95			9.85			6.95		
United Tele. Assoc.	A	8.50			4.25	4.00	3.75	8.50	6.75	8.13	4.25	4.25	4.25
Wamego		10.30			7.05			10.30			7.05		
Wheat State		13.50			8.85			13.50			8.85		
Wilson		11.25			7.00			11.25			7.00		
Zenda		11.35			8.85			11.35			8.85		
AVERAGE		\$10.24			\$6.75	\$4.07	\$4.88	\$10.25	\$6.75	\$6.98	\$6.88	\$4.73	\$5.19
UNITED		\$18.35			\$10.67								
SWBT		\$22.73			\$11.52								

A - AVERAGE RATE USED (MULTIPLE RATES FOR 1, 2, OR 4 PARTY LINES)

Full-Motion and Compressed Two-Way Interactive Video Networks



February 1994

- LEGEND**
- Active Full-Motion Cluster
 - Current/Future Full-Motion Site
 - Compressed Video Network
 - == Future Connection
 - ★ Community College
 - Area Vocational-Technical School
 - ▲ Regents' Institution
 - Compressed Video Site

COMPRESSED SITES:

Capitol Complex (DISC), Topeka
 Emporia State University, Emporia (2 sites)
 Fort Hays State University, Hays
 Grissel Hospital, Ransom
 Hamilton County Hospital, Syracuse
 Hays Medical Center, Hays (2 sites)
 High Southwest Plains Network, Ulysses (10 sites)
 Hospital District #1, Girard
 Hutchinson Community College, Hutchinson (6 sites)
 Kansas State Board of Education, Topeka

Kearney County Hospital, Lakin
 KSU Advanced Mfg. Institute, Manhattan
 KSU College of Technology, Salina
 KU Med Center, Kansas City
 KU Med Center, Wichita (2 sites)
 KU, Lawrence (3 sites)
 Northwest Kansas Area Health Education Center, Hays
 Northwest Kansas Educational Service Center, Oakley (10 sites)
 Oberlin Community Center, Oberlin
 Pittsburg State University, Pittsburg (2 sites)

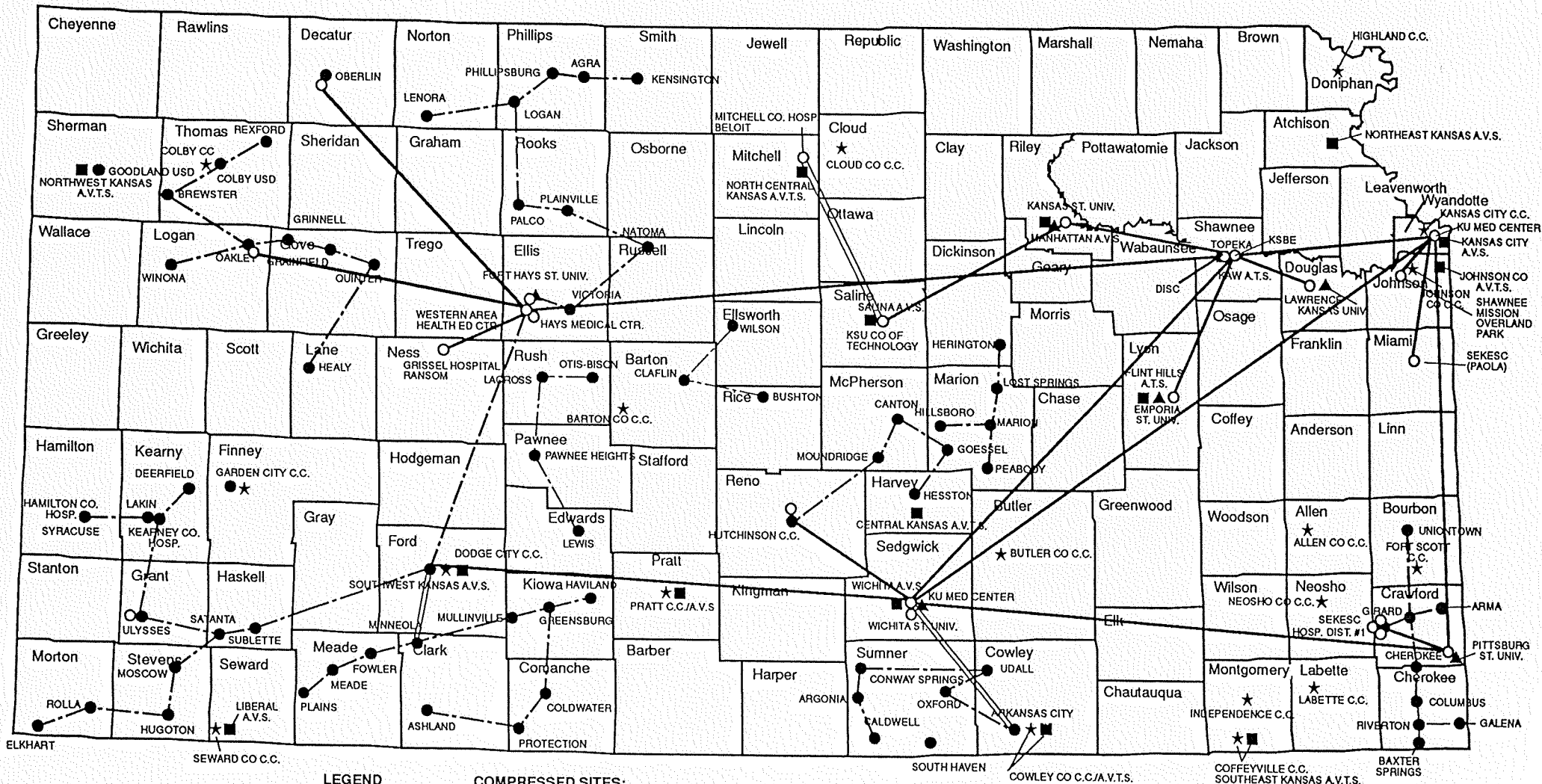
Shawnee Mission Center of International Studies, Overland Park
 Southeast Kansas Education Service Center, Greenbush (10 sites)
 Southeast Kansas Education Service Center, Paola
 The Wichita State University, Wichita (2 sites)

FUTURE COMPRESSED VIDEO SITES:

Cowley County Community College, Arkansas City (7 sites)
 KU Med Center, Kansas City (Site #2)
 Mitchell County Hospital, Beloit
 State Office Building, Wichita

11-2

Full-Motion and Compressed Two-Way Interactive Video Networks



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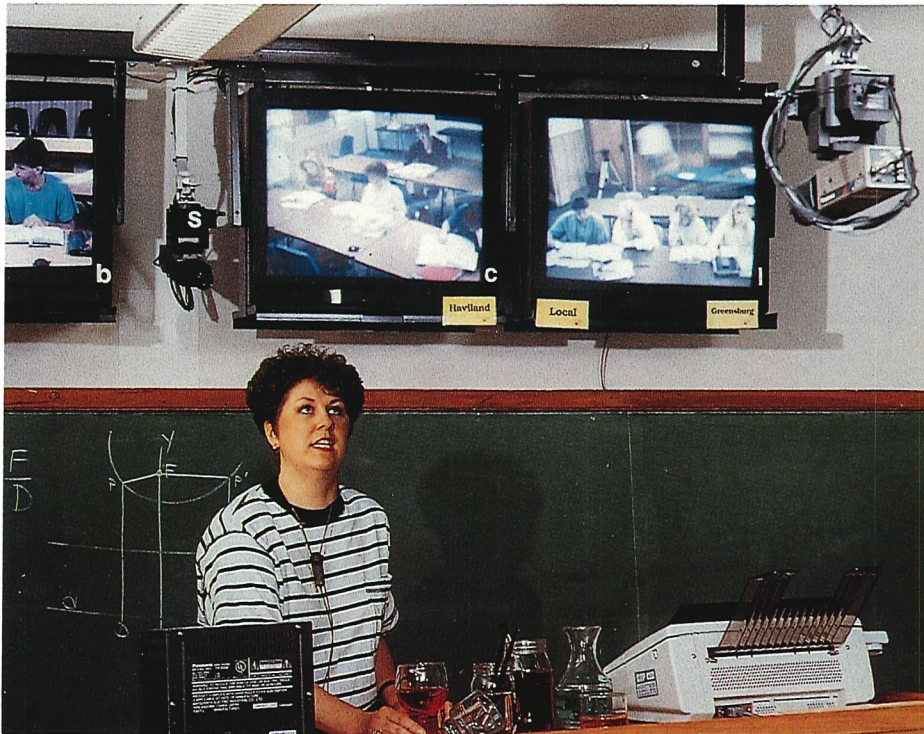
Cowley County Community College, Arkansas City (7 sites)
 KU Med Center, Kansas City (Site #2)
 Mitchell County Hospital, Beloit
 State Office Building, Wichita

2-12

ITV

Interactive Television

THE FUTURE IS NOW



"Sharing our
resources through
communication."



Kansas State Board of Education

A message from the Kansas Commissioner of Education

Dear Kansans:

I'm very proud of Kansas and its people for the accomplishments we've made and the leadership roles we've assumed in the communications arena.

Under the leadership of the Kansas State Board of Education, in just a few short years, Kansans have changed the traditional definition of communications. With the advent of numerous Kansas two-way interactive television clusters and compressed video sites, we have set the standard in revolutionary communications methods.

This publication is dedicated to the pioneering spirit exemplified by the leaders of the Kansas educational fiber-optic clusters. I urge each reader to explore the developments explained in this publication and learn about the numerous benefits now enjoyed by many Kansas school children and rural community members.

Much has been achieved, but there's more to do. Additional networks have yet to be established and communication lines formed to begin sharing resources. With greater expansion, we can begin to break down more communication barriers and challenge traditional limitations. We're closer to bridging the communication gap. Kansans are still moving forward.

Sincerely,

Lee Droegemueller
Kansas Commissioner of Education

Protection • Coldwater • Haviland • Meade • Minneola Fowler • Mullinville • Greensburg • Plains • Ashland

Education leaders from four southwest Kansas school districts set out to raise the level of expectation for their students and communities. Their goals:

- to create new learning opportunities for students
- to build a win/win partnership with business and industry
- to bring communities closer together while reducing the travel between towns.

To reach these goals, the group invested in two-way interactive television.

The building process

Area superintendents James C. Chadwick, Coldwater; Larry Wade, Haviland; Dale Moody, Ashland; Glen Hughes, Mullinville; Jim Miller, Plaine; Bob Mosier, Greensburg; Dannie Clodfelter, Meade; and Fran Seybold, Fowler, discussed the possibilities available through the use of this new communications medium, ITV.

The group of superintendents agreed that typically, smaller schools couldn't afford to have teachers for subjects that weren't drawing many students each day. However, creating the ITV network allowed surrounding schools to pool students and teachers.

With the cooperation and foresight of several area school leaders, the group created the Advanced Photonics Linking Unified Schools, otherwise known as the "A-PLUS Network." Members hired former educator Dick Unruh as the director whose full-time responsibilities would be devoted to the creation, maintenance and expansion of the ITV project.

A tie between education and business

To begin the project, A-PLUS officials were awarded some state and federal grants. These funds enabled the network to help pay for the cost of the cables as well as provide initial ITV classroom equipment.

To get the network operational, A-PLUS needed the help of business to provide needed services while business was looking for new avenues to more clients. The ITV project provided the perfect marriage between the two.

What's in it for business?

"Businesses are seeing a bright future with the introduction of ITV in education," Russ Phelps said. Phelps, Regional Account Manager for Southwestern Bell Telephone Company, Topeka, said ITV was a service his company could provide that would create better learning environments for students.

"Let's face it," Phelps added, "it's to our advantage to have the best educated kids possible."

Part of having the best educated kids meant opening doors for students—doors usually closed to most rural students.



Some students wanted to take a foreign language that wasn't regularly offered because the number of students wanting the class didn't warrant hiring another teacher. However, ITV made it possible by combining students and teachers from area schools.

Southwestern Bell is very supportive of the education of Kansas students. The phone company's foundation has been providing grant funds for innovative classroom projects for seven years. Getting involved in the ITV program fit the company's education involvement goals. Southwestern Bell believes providing services for ITV makes a big difference in kids' lives and that's an investment the company is willing to make.

Advanced Photonics Linking Unified Schools

"With the use of the network, these students can have educational opportunities not usually available to them. The whole project is a good venture for everyone involved," Phelps said.

Empowering the people through ITV

After A-PLUS proved to be a success in the classroom, program officials looked for ways to share the new technology with their communities.

"We saw that many of our residents were involved in our local community colleges," Unruh said, "so we approached these institutions to make plans with them to incorporate A-PLUS."

Through the use of ITV, the colleges could broadcast classes and students from other towns would only have to travel as far as their local high school to participate.

"We'll be able to offer college credit classes to our community through Pratt Community College, Dodge City Community College, Liberal Community College, Barkley College and Christian Liberal Arts College," Unruh said.

A bright future

Future plans call for a network of libraries where each library will specialize in a subject and will act as the main clearinghouse for information on that subject. However, all libraries will be linked together via computers and ITV so information can be retrieved from all sites.

Other plans call for the network to connect with lawmakers' offices in Washington, D.C., for specific use with government classes and town

meetings. Elected leaders could make presentations to their constituents directly from their legislative offices.

"We hope to someday be able to know what our lawmakers are thinking before we read about it in the newspapers," Unruh said.

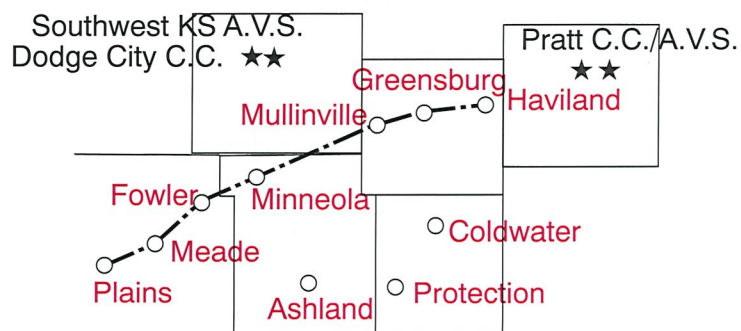
The next move in ITV expansion in southwest Kansas goes one step farther—space.

"Eventually, we'd like to up-link to the astronauts and have them talk to our classes from space," Unruh said. "We're still looking at this from far down the road, but it's not that far!"

"Let's face it, it's to our advantage to have the best educated kids possible."

—Russ Phelps
Regional Account Manager
Southwestern Bell Telephone Company

Advanced Photonics Linking Unified Schools



The stability of a rural community is crucial to much of the success of its business and education.

Two Kansas local telephone companies, H & B Communications and Wilson Telephone Company, recognized this fact and didn't want to see their communities and education institutions wither. They knew two-way interactive television would help prevent this from happening.

Keeping a community alive

"Our primary drive in the Cenkan ITV project was to maintain the viability of our school system," Robert Koch said. Koch is vice president of H & B Communications, an independent telephone company in Holyrood.

"We wanted to be sure to keep the schools intact because we didn't want to see any consolidation," Koch said. "We saw ITV as a means of keeping our community alive and together."

Koch and Bob Grauer from Wilson Telephone Company went to the schools and presented their vision for the future of the community and school systems which included an ITV network.

"We knew ITV was happening in Kansas and we knew it would be a good program for our communities," Koch said.

Their ideas were met with enthusiasm by school officials. Lorraine Superintendent Gene Linton said his schools already were working with nearby school district, Claflin, to teach Spanish to students.

"We were using a satellite hook-up with Claflin to have their teacher provide instruction for our students," recalled Linton. "We could readily see the value of sharing teachers and curriculum. The ITV project could really expand on a good concept."

"We saw ITV as a means of keeping our community alive and together."

*—Robert Koch, Vice President
H & B Communications*

Putting the plan into action

The two independent telephone companies had previously laid the necessary fiber-optic cables.

"Because the cables were there, it was a natural to getting the schools started," Koch said.

The Lorraine and Claflin schools leased transmission equipment and classroom equipment from the two telephone companies for a studio at Quivira Heights High School in Bushton and Claflin High School.

"In our first year with the complete system, operations went very well and we got a lot of positive feedback from the students and teachers," Linton said. "Now we've added the Wilson schools to our cluster and we continue to expand our capabilities."



The students and teachers weren't the only ones commenting on the system. The coaxial cables were provided by H & B Communications who also served the community with home cable television. Because of this link, H & B Communications was able to broadcast some of the high school classes to the community.

"We heard praises from our community and school district patrons about the new ITV program. It was nice to see how well the program was received by the people," Linton said.

Opening the communication lines to the people

The Cenkan ITV program is still relatively new and doesn't have a complete community involvement program. However, network officials have some pretty good ideas about how they can serve their neighbors.

"We'd like to see our network linked to Barton County Community College and Kansas State University," said Linton. "If we had that link, our people could participate in courses from here."

In addition, staff development programs and inservice presentations could be given using the network, thus eliminating a lot of travel time and costs.

"Constant training is so important for people to keep up on the latest developments in their fields and to adapt to the changing needs of their industry," Linton said. "For example, we want our teachers and administrators to be able to take part in classes given at the community colleges and major universities in Kansas."

Koch envisions the ITV system to be used by everyone in the community, not

just the schools. He said he'd also like to have local law enforcement officials take part in training using the network.

Moving to the next step

Continuing to expand the network is at the top of the priority list for network officials.

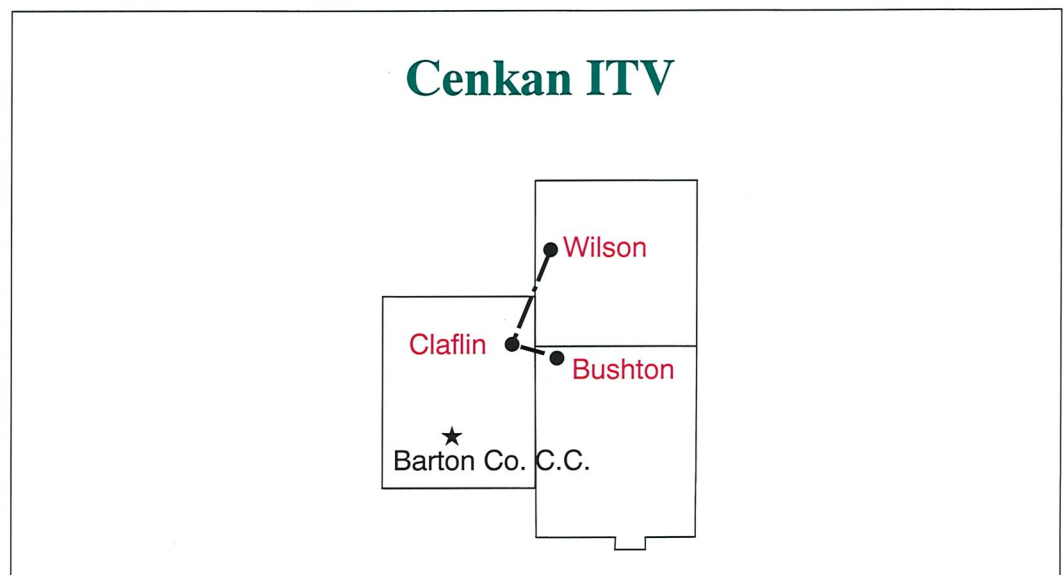
Koch and Linton envision local businesses using the system for consulting services and the medical industry reaching specialists without traveling to larger cities to receive services.

Educators and business leaders also are exploring a partnership where business professionals teach students using the network. The proposed mentor program has the support of local businesses which is paramount to education.

"Local businesses are always willing to help us and we're excited to be able to do things for them too," Linton added. The technology is available today, but they are working on funding the project.

Network officials have had the full support of their business partners regarding expansion plans.

"We've enjoyed working with the school districts," Koch said. "It's been a winning situation all the way around." ■



Elkhart • Rolla • Hugoton • Moscow • Ulysses • Syracuse Satanta • Sublette • Dodge City • Lakin • Deerfield • Hays

Ten education officials from southwest Kansas decided to unite forces and devise a method to make their education community a state-of-the-art learning environment. The result: the High-Southwest Plains Network (HSPN).

Thanks to the members of the driving force behind the network plans and vision, HSPN got a healthy start. The original planners for the program included:

- Phil Johnston, superintendent, Elkhart
- Neill Hays, superintendent, Rolla
- Nelson Bryant, superintendent, Hugoton
- Bruce Kienapfel, former superintendent in Ulysses
- Dennis Thompson, superintendent, Satanta
- Don Nelson, former superintendent, Moscow
- Bill Jones, superintendent, Deerfield
- Ernest McClain, superintendent, Lakin
- Gary Marshall, superintendent, Sublette
- Don Nigus, former director of special education at the High Plains Educational Cooperative, currently director of the Southwest Plains Regional Service Center.

Making the possibilities a reality

"We were looking at a host of win/win propositions," Nigus explained. "We had a dream that would drastically reduce our staff's travel, enhance the school curriculum, and bring the community into the schools to reap the benefits of new technological communications. HSPN had the potential to make everyone happy."

"Our program was not intended solely for the school districts' use. We want to get our communities and area businesses involved too."

—Don Nigus
Director, Southwest Plains Regional
Service Center

Another two-way interactive television program which proved to be successful already was established in a nearby community across the Oklahoma border.

"It was like a farmer who looked over his fence and saw that his neighbor had something he wanted," Nigus recalled. "Our neighbor's program provided us an incentive and a source of advice."

With the enthusiasm of the original planners and the support of their communities, plans were set into motion for this challenging yet rewarding network. Multiple agencies, telephone companies and cable television companies in the area began collaborating and cooperating to establish not only the network, but also the curricula for the school districts.

Their diligence paid off when one hundred and sixty miles of fiber-optic cable provided the connecting network for the first phase of installation. The impact



High-Southwest Plains Network

was immense on restructuring education for the sites of schools and agencies in this cooperative.

Taking it to the people

The High-Southwest Plains Network has worked hard to meet the needs of its clients—the community.

“Our program was not intended solely for the school districts’ use. We want to get our communities and area businesses involved too,” Nigus said.

Nigus explained that HSPN has managed multiple-agency program scheduling for the past two years. Educational, community service and business continuing education services are facilitated by the computer-generated system operated by the management staff of the Southwest Plains Regional Service Center. Scheduling adjustments and refinements are quickly made to accommodate a wide variety of program schedules on a regular basis.

Since the network’s inception, numerous regional library meetings have been transmitted to the public and school librarians in southwest Kansas. One hundred and ten southwest Kansas bankers have been provided continuing education classes on the network. Local certified public accountants and petroleum engineers as well as numerous regional scout leaders are using the network during the summer. Other groups anticipating future use include the University of Kansas Engineering Department and the Kansas State University Extension Service.

Added technology and using AT&T fiber will provide businesses access to HSPN’s already established business continuing education services. With connections and lease

options available in Overland Park, Kansas City and 1,100 rooms in 35 countries, facilities are available for global interaction.

Ready for tomorrow’s challenges today

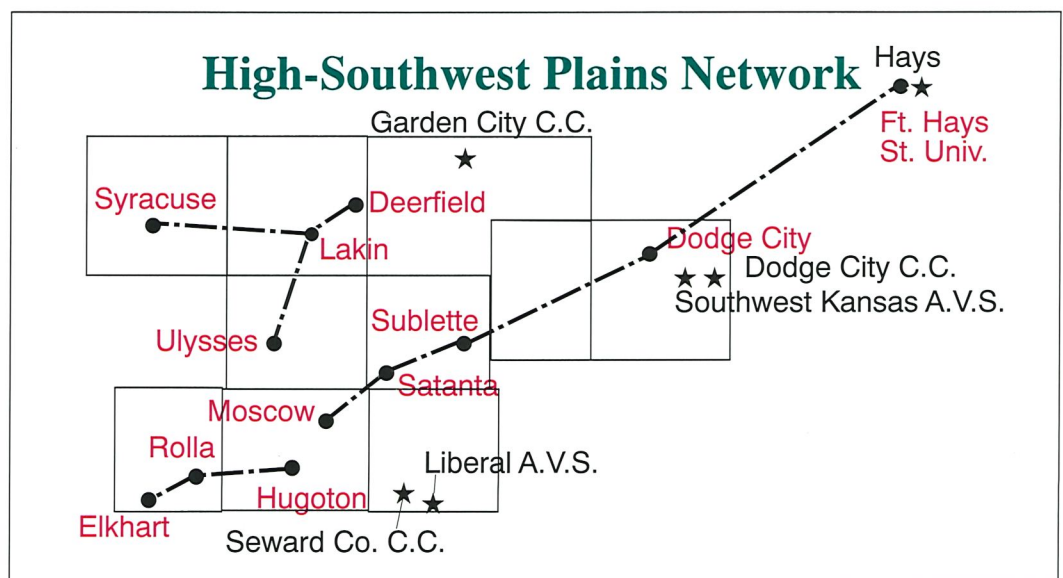
HSPN has extended its networks to two area hospitals in addition to the Garden City Community College while the Seward County Community College which will be connected by early 1994. HSPN also has reached out to connect with several state universities.

Final diplomatic arrangements have been negotiated to provide a “French Connection” with the American School in Paris, France. A joint language and social studies course facilitated by two-way interactive telecommunications will be provided for French and for southwest Kansas high school students.

With the partnership established between HSPN and area business leaders, Nigus is confident that the next expansion will be an even greater service to school children, the community and business.

In a few short years, rural southwest Kansas will have expanded its telecommunications capability to global interactions.

Where next? According to the network officials, they’ll settle for “outer space.”



Natoma • Palco • Kensington • Hays • Phillipsburg Lenora • Logan • Agra • Victoria • Plainville

For many years rural students had to settle for limited learning opportunities simply because of their small numbers.

Tired of accepting the status quo, education and business leaders in northwest Kansas decided to change the paradigm. They believed two-way interactive television would be a tool to accomplish that goal while providing a multitude of benefits to rural communities and local businesses.

The building begins

The school districts involved in tackling the ITV proposal included Paradise, Palco, West Smith County, West Solomon Valley, Eastern Heights, Logan and Victoria.

Some schools were using satellite transmission for distance learning; however, it only provided one-way video communication between the sites. With ITV, two-way video communication was available therefore creating a better learning experience for students.

The ITV program, which would later be named Interactive Consortium Academic Network (I-CAN), was dedicated to providing additional educational oppor-

tunities for the school students, staff members and community.

I-CAN addressed a major concern for educators by creating a means to fulfill mandated curriculum requirements for subjects such as foreign languages and components of Quality Performance Accreditation. Another benefit obvious to superintendents was the ability to train and retrain staff using the network.

What's good for education proves good for business

"We knew where we wanted to go with the ITV project, but weren't sure exactly how to get it done," recalled Lesta Jagers, I-CAN Coordinator. "That's when Rural Telephone stepped forward to help provide options, services and eventually, a valuable school/business partnership."

Rural Telephone Service Company, Inc. was an advocate in preserving the rural community and quality of life it came to represent. As a local telephone company, Rural Telephone was able to provide the schools a \$60,000 grant which furnished fiber-optic cables and equipment for the ITV classrooms.

"Rural Telephone is a local business and understands the plights of small schools as well as the benefits a rural education can provide," said Rod Wallgren, Rural Telephone official. "We were just as interested in the ITV program as the educators. We knew it would open new doors for the students and other area business too."

"We never intended it to be a single-purpose network," he said. "The more people using it, the more it contributes to the quality of rural life."

I-CAN brought businesses and education together like no other project undertaken by the schools before.



Interactive Consortium Academic Network

Jaggers said, "... we realize we can't keep our schools open if we don't keep our business thriving and vice versa. We see our new facility as a way to get businesses more involved in the schools and community. After all, everyone has a vested interest in everyone else's success."

"We never intended it to be a single-purpose network. The more people using it, the more it contributes to the quality of rural life."

—Rod Wallgren
Rural Telephone Company

More community opportunities

Many small communities have very close ties to their community colleges for a variety of reasons. These higher education institutions provide additional educational opportunities, consulting services and training for a variety of occupations.

In its first year of operation, I-CAN opened its doors to the community by providing parenting classes to the public while about 40 parents with college-bound students attended a meeting about college financial aid.

I-CAN is currently connected to Fort Hays State University; however, network plans call for adding Colby Community College, Cloud County Community College and Barton County Community College.

"These community colleges can offer dual credit classes to our patrons which is something in which the public has expressed an interest," Jaggers said.

Expanded use just around the corner

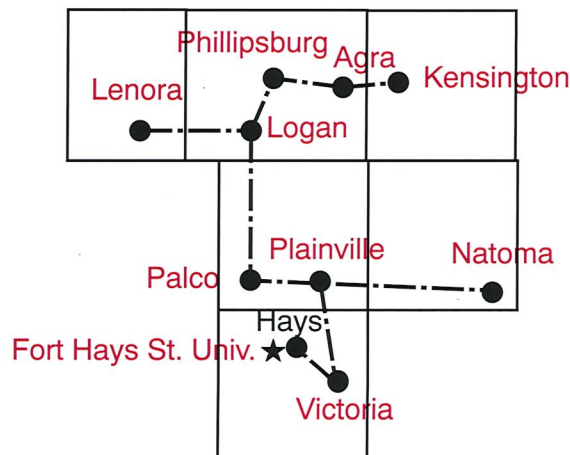
Local civic groups are exploring the possibilities of the new system to expand the communication potentials of their organizations.

"We're receiving a lot of requests for the use of I-CAN with groups like the Lions clubs," Jaggers said. "With the sudden popularity of our facility, we decided to conduct an assessment on the ways we can market our system to many groups. We believe we have something here that brings benefits to any business or community group."

I-CAN plans to discuss with the local medical groups the possibility of their facility's use for allied health training and consultations with specialists from larger cities.

Jaggers said, "... developments with I-CAN have gone so fast and I don't expect things to slow down from here. But you can bet, we're ready to keep that pace." ■

Interactive Consortium Academic Network



Seeing is believing, which is the first step to making changes.

That's what education officials in northwest Kansas found to be true after they got a glimpse of two-way interactive communications. Obviously the applications for education were incredible and no one could argue about the benefits to students.

"Two-way interactive television was the genesis for a multitude of expansions for all of northwest Kansas," according to Jack Reed, executive director of the Northwest Kansas Educational Service Center. "Enhancing the curriculum offerings to students was a top priority, but ITV also was the gateway to economic growth for our part of the state."

Schools, working with local government agencies and health care institutions, brought training and communications capabilities to area businesses.

"Using ITV as an economic development initiative helped us in creating a learning community for all people—not just those attending our public schools. Today, we are a major part of the growth of northwest Kansas," Reed said.

Establishing aggressive goals

President George Bush wasn't the only one talking about competing in a global market. Educators, like those in northwest Kansas, were making changes to prepare their students for life in an ever-changing and expanding society.

A planning committee, comprised of area superintendents and other area educators, made an aggressive list of strategic goals for the new system. For example, in the first five years, the planning committee wanted to see students participating in courses and interacting with others internationally.

"We wanted to have a teacher in Japan teaching our kids, not a Japanese

teacher instructing them here," ITV Project Director Jane Johnson said. "To effectively communicate, you have to know the language and the culture. Learning from a teacher who lives in Japan enables you to learn the culture and the language."

Network leaders see this as a major downfall of today's business people. Not knowing the cultures, they say, may mean the difference between establishing good working relationships with other countries or simply talking to them.

"Using ITV as an economic development initiative helped us create a learning community for all people—not just those attending our public schools."

*—Jack Reed, Executive Director
Northwest Kansas Educational
Service Center*



Northwest Kansas Educational Service Center Eastern Cluster

Breaking ground

Launching the ITV program was more difficult than network officials imagined. Never having dealt with high-tech equipment, Johnson said she had a lot to learn. Fortunately she had help from people at S & T Telephone Company, Rural Telephone Company, Wilde Optical Services and Reed, Veach and Wuerman.

Bob Tupper, Reed Veach and Wuerman representative, dedicated a lot of time and interest in developing the program. He became what Johnson viewed as a "natural teacher."

A new set of standards and goals

Before long, the fiber-optic connections were complete and accommodating a full class schedule.

But program leaders weren't satisfied. Even while the program was in its infancy, plans were being discussed for expansion. The network was working well in the classroom and network officials felt it was time to expand their services into the community and business arenas. There was a pronounced need for consulting and training services; and long-range plans for the network were to establish a "business mall." Its purpose would be to make connections to consulting services for groups such as the Kansas Bar Association, Telemedicine, and hospital workers and providers. Teleconferencing could be utilized in discussing medical applications and viewing demonstrations.

But for network officials, this was just the beginning. Plans also called for the ITV program to expand into areas outside the Kansas boundaries.

"We want to bring in key community leaders

from the four surrounding states and have a conference targeting various technological businesses such as telemedic workers and agra-tech organizations. We want to show them how we can assist them," Johnson said.

Today, more and more of these things are actually happening.

Yet, there are more ideas for ITV uses in education according to Johnson. One of her challenges, she says, is to explore ITV uses in vocational technical schools.

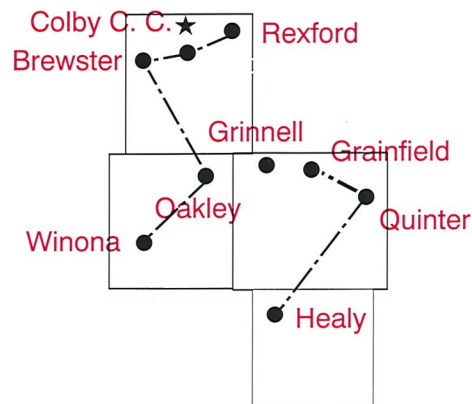
"I believe there is a tremendous need for ITV in vocational training," she said. "I see the need to have our vo-tech departments restructured so they can look at the union developing between industry and the vo-tech training institutions."

Ultimately, Johnson would like to see ITV used as a tool to complement a "mentor/apprentice" relationship between vocational technical students and industry professionals—who also are potential employers.

Working hand-in-hand with the rest of the northwest Kansas community, Reed said the schools are helping school children, businesses and local citizens.

"Our impact has already been vast and we haven't even scratched the surface yet. This technology has opened everyone's creativity and people are reaching out to each other in ways unheard of until now." ■

Northwest Kansas Educational Service Center Eastern Cluster



Caldwell • Conway Springs • Argonia Arkansas City • Oxford • Udall

Simply put—schools can provide students with more educational opportunities and a better learning environment while saving money.

Just a few years ago that statement wouldn't have been much more than an unrealistic dream. But, with the revolutionary technological development of distance learning through interactive television, that statement is not only a possibility—it's a reality in Kansas schools.

For the South Central Kansas Educational Network, their dream became a reality on April 13, 1992, when their system officially became fully operational.

The beginning of a great idea

In 1991, Dr. Pat McAtee, president of Cowley County Community College, met with several area education leaders to discuss the potential of bringing ITV to south central Kansas. With the support and leadership of the community college board of trustees, the local education service center and local boards of education, the proposal for creating an ITV network was endorsed.

The South Central Kansas Education Service Center, based in Mulvane, Kan., received a matching grant from the State of Kansas to cover part of the expense of the network. The grant application was written by Dr. Pat Stephens, director of the service center. As a result, four area school districts—USD 360 (Caldwell), USD 356 (Conway Springs), USD 358 (Oxford), USD 463 (Udall)—entered into an agreement with the Cowley County Community College to form what is now called the South Central Kansas Education Network.

Through a competitive bidding process, five telephone companies won the bid and the service center signed a 10-year contract to lease the video network. The contracting telephone companies included Southwestern Bell Telephone Company and four local telephone companies: Kan-Okla, Haviland, United and Wheat State.

Gary Detwiler, the video network's administrator based at Cowley County Community College, likes the idea of leasing the network because the telephone companies take care of the maintenance.

"Since the technology is relatively new and changing rapidly, we believe we can better maintain and upgrade the service to meet the school districts' needs by leasing, rather than buying," explained Detwiler.

The 141-mile fiber-optic cable network allows students at each of the connecting sites to hear, see and learn in color and in full motion. The ITV program was one of the first clusters of schools in the country to be linked to a community college.

"The network lets teachers share their expertise in other classrooms," explains Stephens. "It lets us bring new curricula to the students in such areas as foreign language, advanced mathematics, science and humanities."



South Central Kansas Education Network

Stephens eventually expects to offer professional seminars and continuing education courses and other instructional services through the video network.

"Our goals are to provide instruction and service to students with special needs, build curriculum offerings, provide community and adult education classes and increase the sharing of resources among the participating schools," Stephens said. "Pooling our resources helps because no one district can provide all the course work separately."

Exploring community involvement

Even though the network is still new, network officials are enthusiastically tackling the issue of community involvement in the program.

The link to the community college has a wealth of possibilities to strengthen community ties. In fact, Detwiler is already thinking ahead to the future and how the college can best serve its patrons.

A possibility for college growth, says Detwiler, is to reach people who work in the home or have small children and can't easily come to the college for class.

"Our system is still very young, but someday I want us to be able to transmit our courses to the homes," he said. "People could participate directly from their living room or kitchen."

Currently, education courses seem to be the most popular use of the ITV systems. Using the network's video-conferencing capabilities, local businesses and organizations will have a new way to teach.

For example, the American Bar Association is concentrating efforts on using ITV systems to transmit continuing educa-

tion courses to local attorneys. Staff development sessions are being explored as possible transmissions for south central Kansas companies like General Electric, Rubber Maid and Conoco.

Other plans for expansion already are underway. The Cowley County Community College is building a new Art, Science and Technology Building complete with a video conference facility. Detwiler said this will serve as another place for business and industry in the area to interact with areas outside the community.

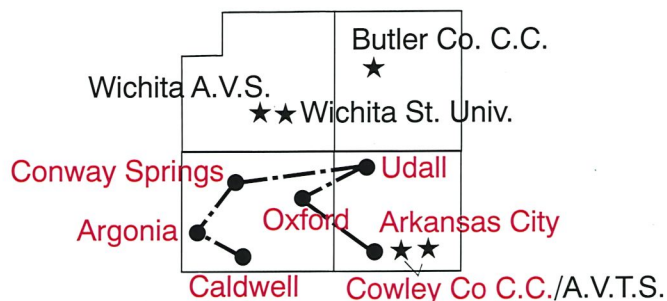
With this network, Detwiler adds, the administrators can accomplish virtually anything using ITV.

"It's the wave of the future," Detwiler said. "We now have a gateway to and from anywhere in the world." ■

"Our system is young, but someday I want us to be able to transmit our courses to the homes."

—Gary Detwiler, Coordinator of Interactive Video, Cowley County Community College

South Central Kansas Education Network



What started as a way to improve education, turned out to be a complete new way of life for schools, businesses and communities in southeast Kansas.

In 1989 two-way interactive television was virtually unheard of in Kansas. However, at the suggestion of education commissioner Dr. Lee Droegemueller, David DeMoss, director of the Southeast Kansas Education Service Center, traveled to Minnesota to see how this communication tool was being used to enhance educational opportunities in rural communities.

After seeing the operation, DeMoss could readily see the possibilities for such an operation in southeast Kansas.

"The availability of expanded curriculum was severely limited to us, but ITV could change that," DeMoss said.

A network linked to several schools would allow participants to combine financial resources, teaching staffs and students. With more students and a larger staff, schools could offer more courses to students—courses higher education officials were expecting students to have mastered before they went to college.

Getting down to business

DeMoss and area superintendents gathered to discuss the project and how their schools would be involved. Those educational leaders included Dr. Bill Biggs, Arma; Dr. John Battitori, Girard; Dr. Thomas Woolbright, Cherokee; and Larry Reynolds, Columbus. At the conclusion of their talks, the newly-formed team constructed an action plan outlining how each district would contribute to building the network.

DeMoss said the most successful way to start building such a network was to have a willing telephone company partnership. That's when local tele-

"We look at IDL as a service for all of southeast Kansas. If you help your community, you're helping your school districts too."

*—Deanna Grotheer, IDL Distance
Education Coordinator*

phone company CRAW-KAN answered the call.

CRAW-KAN's general manager, Lyndell Hurt, saw the ITV system as a valuable resource to more than just education. He met with his board of directors and explained his vision for the use of ITV as a viable tool for schools, the medical industry and the economic development of the communities in southeast Kansas. With the support of his board, CRAW-KAN officially became a member of the ITV team.

CRAW-KAN and Hurt's support played key roles in the development of the program, which would later be called The Southeast Kansas Interactive Distance Learning Network (IDL).

"Without their feelings that ITV would contribute to the rural vitality in the business communities, this program wouldn't have happened," DeMoss said.

CRAW-KAN also worked with Columbus Telephone Company to build the network.



Southeast Kansas Interactive Distance Learning Network

With funds provided to the service center from several Kansas State Board of Education grants, the local phone companies worked with local school districts and the service center to install fiber-optic cables linking four high schools. In January 1991, IDL went on-line with full-motion analog communication.

Using IDL to help others

Network officials opened their facility's doors to the community. Groups like firefighters and law enforcement officers have used IDL for training their employees.

Deanna Grotheer, IDL Distance Education Coordinator, works closely with local groups using the system. Community involvement is a link, Grotheer says, the network can't neglect.

"We look at IDL as a service for all of southeast Kansas," Grotheer said. "If you help your community, you're helping your school districts too."

IDL has recently expanded further with the addition of equipment enabling the network to utilize a compressed signal. Using traditional telephone lines, this technology can link IDL to other sites outside of those already connected with the fiber-optic cables.

Teamwork creates opportunities for all

Grotheer has seen the ITV enthusiasm spreading, and says everyone seems to be asking how they can fit ITV into their everyday routines.

The benefits reaped by education now are sought by business. The savings in time and travel costs are substantial enough to lure businesses into the ITV arena.

"If a southeast Kansas company needs to talk to

its corporate headquarters in another city, why would they travel there when they can do it from Greenbush instead?" Grotheer said.

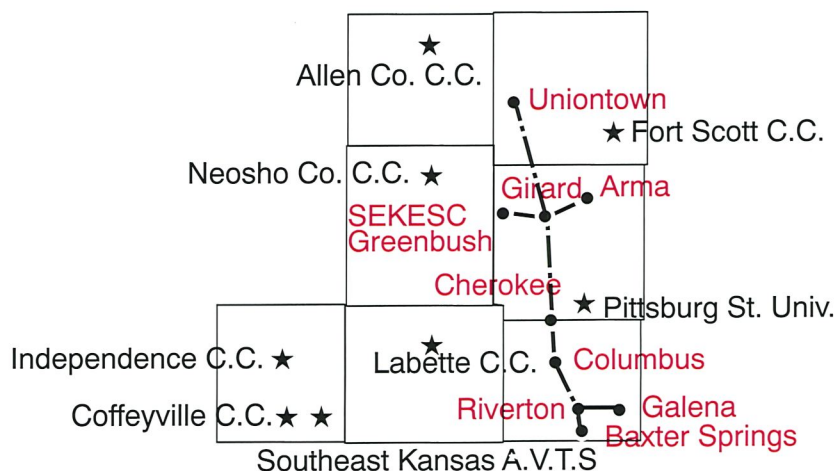
Area medical professionals like the system because they can confer with specialists from the larger cities while staying close to home.

"Once we brought them (medical professionals) in to view our facility, they liked what they saw," said Grotheer. "So, they built their own and now we work together on various projects while our combined efforts are a plus to our community."

DeMoss predicts that in the next year, more hospitals than schools will be involved in ITV. It's a logical option for their industry. Small hospitals can remain in small communities while staying on the cutting edge of technology in learning new techniques and trends.

IDL officials see a lot more uses for ITV on the horizon and they have the drive to take the challenge as far as it can go. Given the teamwork between education, community and business leaders, the future holds as much as each group dares to imagine. DeMoss added, "... the schools are the heart of small communities and they are assisting in economic development and providing educational programs to benefit the whole community." ■

Southeast Kansas Interactive Distance Learning Network



Superintendents from four central Kansas school districts met in the spring of 1989 to develop plans to pool their districts' resources—human and financial—to create a viable means of enhancing student academic opportunities and community development. The result was the establishment of The Learning Consortium (TLC).

"We knew the two-way interactive television (ITV) project would provide increased opportunities for students in our smaller schools at a drastically reduced cost to the four districts combined," Hesston Superintendent Gary Price said.

To tackle the challenge, Price met with Terry Schmidt, superintendent in Moundridge; David Grove, superintendent in Canton-Galva; and Robert Van Arsdale, former superintendent in Goessel.

"Everyone in the group contributed to the shaping of the project and assumed responsibility for each phase of its development," Price recalled. "It was the dedication of the entire group that was paramount in seeing this project get off the ground."

Making the connection

TLC leaders have dedicated the network to harnessing the power of fiber-optic technology and interactive audio-video transmission to provide useful communication between schools and communities.

"The expansion of our ITV system is allowing local patrons as well as business and industry to work with the schools," TLC Executive Director Dr. Sandra Thies said. "TLC allows our entire community to come together and grow."

TLC has provided the people it serves with access and opportunities far beyond traditional limitations. Participants now can achieve their communication and academic goals with greater ease. This learning environment has become a resource designed to enrich the lives and learning of all patrons.

"We were pleased when local firemen and EMTs approached us about using the network to provide training to fellow colleagues," Price said. "This was exactly the kind of move we were looking for to introduce them to ITV."

Working together

In addition to community interaction, an important part of TLC's vision is building relationships with area business. Even while TLC was in its infancy, project leaders worked with area businesses who, in turn, provided consulting services, construction expertise and technical information.

These relationships have evolved into partnerships providing an even wider economic impact as the capabilities of the network are extended.

Local businesses and civic groups have recognized the benefits of this two-way interaction with colleagues outside their area. Partnerships between schools have been established with groups such as:



The Learning Consortium

- Local Lions Clubs
- Emporia State University
- Kansas State University, College of Veterinary Medicine
- The Prairie Window Foundation
- The Kansas Cosmosphere
- Hutchinson Community College

Bringing the nation to your front door

Not only local businesses are beginning to grasp the possibilities of this communication tool, but national groups have stepped forward to establish their link. For example, several national businesses and industries have formed a partnership with TLC to reap the benefits of networking over fiber. The businesses involved included:

- Tele-systems, Inc. (Minnesota)
- American Lightwaves Systems (Georgia)
- 3Com Corporation (Minnesota)
- Information Management (Kansas)
- Computerland of Hutchinson (Kansas)
- IBM/EduQuest of Kansas

As their contribution to the partnership, each business has donated equipment, products and services as well as financial assistance.

TLC also is exploring the possibility of participating in a wide area network with Kansas Independent Network, Inc. (KINI). This venture would provide TLC districts software leasing with KINI as a repository. KINI would handle business details such as purchases, leases, updates and copyrights.

Changes of today

What started as a dream, the leaders of TLC

have made a reality for their communities. Students are being given the chance to explore new academic areas, community groups are expanding beyond the borders of their neighborhoods, and businesses are bringing their services to their clients. More people are learning and more people are interacting as a result of TLC.

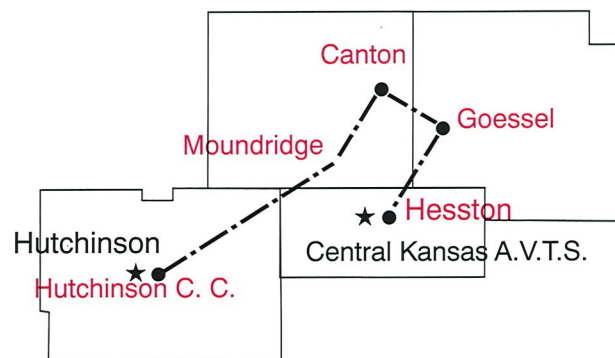
“We’ve come so far with this technology since TLC first started,” Thies said. “Not only have we made our initial dreams a reality—we’ve surpassed them.”

“Not only have we made our initial dreams a reality—we’ve surpassed them.”

—Sandra Thies
TLC Executive Director

Education, community and business have formed the TLC team and together they’re growing, creating and learning more than anyone thought would be possible. ■

The Learning Consortium



Wanting to give their rural students the best academic opportunities possible, five central Kansas superintendents committed themselves to researching two-way interactive video.

Their research led to discoveries of enhanced curriculum, more community involvement in education and a partnership with area community colleges. Armed with a multitude of benefits waiting to be reaped, these five superintendents from Herington; Centre, located in Lost Springs; Marion; Hillsboro and Peabody presented their findings to their local boards of education in the spring of

“Our boards are truly dedicated to improving the quality of education for the students they serve and ITV presented them with opportunities that they couldn’t pass up.”

*—Doug Huxman, Superintendent
USD 408 (Marion)*

1992. The presentations, in all cases, were met with enthusiasm and optimism.

“Our boards are truly dedicated to improving the quality of education for the students they serve and ITV presented them with opportunities that they couldn’t pass up,” said Doug Huxman, superintendent of the Marion public schools.

Unfortunately, finding start-up funds was a major hurdle for network officials. Grants to help offset the costs were scarce and network officials were anxious to proceed with implementation.

“Once again, our boards pledged their support for the system and agreed to financially back the plan by reallocating existing funds,” Huxman said. “As a result, we’ve

put a lot of money into this, but we can be proud to say that through a lease/purchase agreement, we will own all of our fiber cables and classroom equipment.”

Technical expertise was given to the project through Tele-Systems Associates, Inc. from Hastings, Minn. With their help, the Technology Excellence in Education Network (TEEN) was officially formed and set to begin full operations with classes in the fall of 1993.

To handle the daily operations of the new network, Dr. Sharon Tatge was hired as the TEEN Executive Director. Tatge brought with her a host of ideas for a variety of applications which would benefit school students and community members alike.

“Our first priority is to enhance the curriculum for the schools and the students from the various districts,” Tatge said. “There are a lot of things each school district would like to do for its students in terms of academic offerings, but because of limited budgets and staffs, it was impossible for any one district to do. However, with ITV these five school districts can work together to make the changes they need to help their students be better prepared for the world of work.”

Huxman added that the new system won’t be a means by which to eliminate staff positions, but rather, TEEN will expand the total education programs of each school district.

Teamwork makes project successful

Making TEEN a successful project had taken the cooperation and creativity of many people in the five communities supporting the new network.

“This hasn’t been a project that any one person can take all the credit for,” Huxman said. “In fact, the success of our project is credited to the fact that this is a grassroot-driven initiative.”

Area school building principals have been given a lot of authority in customizing the system to meet the individual needs of their students.

“Our building principals have been given the responsibility of creating the class schedules and working out

Technology Excellence in Education Network

the building details while the superintendents are responsible for budget matters and working with their boards on policy issues," Huxman said.

Young network: big ideas

Although TEEN is still in its infancy, Tatge says network officials have their sights set on connecting with areas outside of their five communities. Plans are already being formed to link with the state of Kansas' communications network, KANS-A-N. Making this link will connect TEEN with several state universities, hospitals, the Kansas State Board of Education and other Kansas school district ITV clusters.

In addition, network officials are working to create a network of libraries and computer labs.

"Using our fiber optic cables, libraries can link information by computer," Tatge said. "We plan to have each school specialize in one subject area and then it can act as a clearinghouse for that subject's information. This will be a tremendous break-through for our small, rural schools and give greater information resources to our students."

Community involvement also is a major concern for TEEN officials. Tatge said the network belongs just as much to the local citizens as it does to the school students.

"We are excited about all of the creative plans we have underway now," Tatge added. "With all of the activities we have planned and the enthusiasm we are receiving from our communities, we should have no problem getting all people

involved. From the cub scouts to the senior citizens, everyone is excited about what is happening and wants to be a part of this communication outreach."

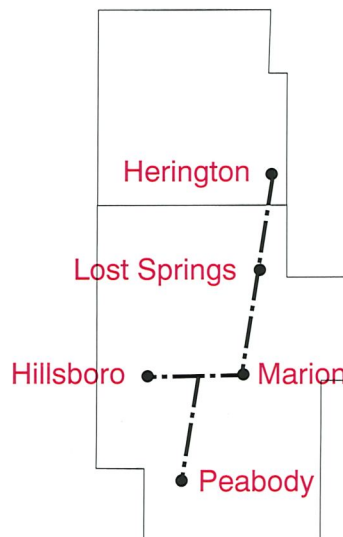
Two local community colleges and a private college also have expressed an interest in linking with TEEN to reach their communities and provide a means to meet local education needs. Classes are anticipated for the fall and spring semesters.

Continuing to build

Although TEEN will begin its full operation with the beginning of classes in the fall of 1993, network officials are dedicating themselves to improving school and business partnerships using their ITV system.

"The TEEN board is anxious to get all five communities and area businesses involved," Tatge said. "We have pledged ourselves to working hard to meet the needs of the communities. And we know we can do an effective job of helping people meet their communication needs without going any further than our community high schools." ■

Technology Excellence in Education Network



Nearly five years ago, the Kansas State Board of Education made a commitment to improving the quality of education for Kansas school children through the use of ITV. Today, nine interactive television clusters later, the communication possibilities are booming and network officials are scrambling to expand beyond the 48 Kansas cities and towns the state board can already reach.

Similar benefits translate into increased productivity

For school districts, two-way interactive television provides an alternative to hiring more teachers, incurring travel costs and coping with a limited curriculum. Many of the same benefits apply to the state board of education.

With the use of the ITV conference room at the state board headquarters in Topeka, Kan., staff estimate that they will cut their time on the road by nearly 50 percent. That translates into increased productivity—less time on the road and more time devoted to important education programs. All this and there will be no loss of one-to-one personal contact with agency clients across the state.

As the current clusters fulfill their expansion plans—so increases the communication potential for the state board. The more connections made, the more information can easily be accessed by more people who can get the information they need to make smart and well-informed decisions. After all, the quality of education for Kansas students depends largely on the training and decision-making capabilities of school officials.

Setting higher goals

Has the state board reached its ultimate communications goal now that the state board has installed its ITV conference room?

Not according to Dr. Lee Droegemueller, commissioner of education. The ultimate goal, Droegemueller says, will never be met.

“You can never meet your ultimate goal because once you get close, you raise your standards. And that’s what we’re all about,” Droegemueller said. “We’re here to constantly raise the standards.”

Droegemueller envisions this revolutionary communication technology to be available to all people.

“Access by all—that’s the key. Making ITV as close as the telephone, and as common, will be a start.”

So many things are changing in our society and at an incredibly rapid pace. Droegemueller says the state board realizes that the education industry and the rest of the world need to keep up with that pace. Instant communication is necessary for economic survival which goes hand-in-hand with maintaining the quality of life we all expect and deserve.

“Ultimately the standard of living will decline because our communication delivery system isn’t meeting the people’s needs in order to be productive in their job performance,” he said.



Kansas State Board of Education

Many people treasure the rural life which must be preserved. However, Droegemueller warned that smaller communities may die if they choose to live in isolation. Without sharing resources, the chances for small community survival are greatly diminished.

Droegemueller recognizes that Kansas has come a long way in the battle of breaking down the isolation and communication barriers. But this war can't be fought by education alone. Teamwork is necessary and the team players, according to Droegemueller, must include business and industry.

"Some local businesses have taken the lead and are working together with education and other businesses to build a community of learners," Droegemueller said. "We must become a high-skill, high-

changing priorities, citizens must be able to adapt to the demand for changing work skills. Communication is the vital link that binds these components of success. With constant two-way communication, productivity will increase.

"Without proper communication, our work is bound to represent redundancy, inadequacy and will result in our making poor choices."

Partnerships with no boundaries

Having partnerships with education, business, health care and other industries will create a complete two-way communication network. The better the communication paths, Droegemueller says, the less chance you have for misinformation.

The next step from here, Droegemueller says, is to completely demolish the traditional mind-set barriers people have learned to accept.

"The key to complete communication means transcending the limits people allow. We have to develop a system that gives access to everyone and with no boundaries—city to city, state to state, or nation to nation. Boundaries have no meaning in a world with complete communications." ■

"Access by all—that's the key. Making ITV as close as the telephone, and as common, will be a start."

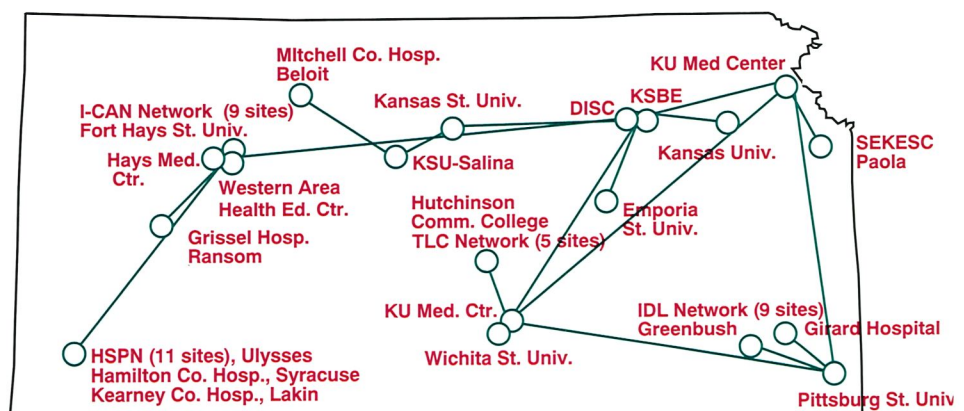
***—Dr. Lee Droegemueller
Kansas Commissioner of Education***

wage state in order to be competitive in the state, national and global markets. And to reach that point, everyone needs access to the fully interactive communications tools."

But why is communication so important?

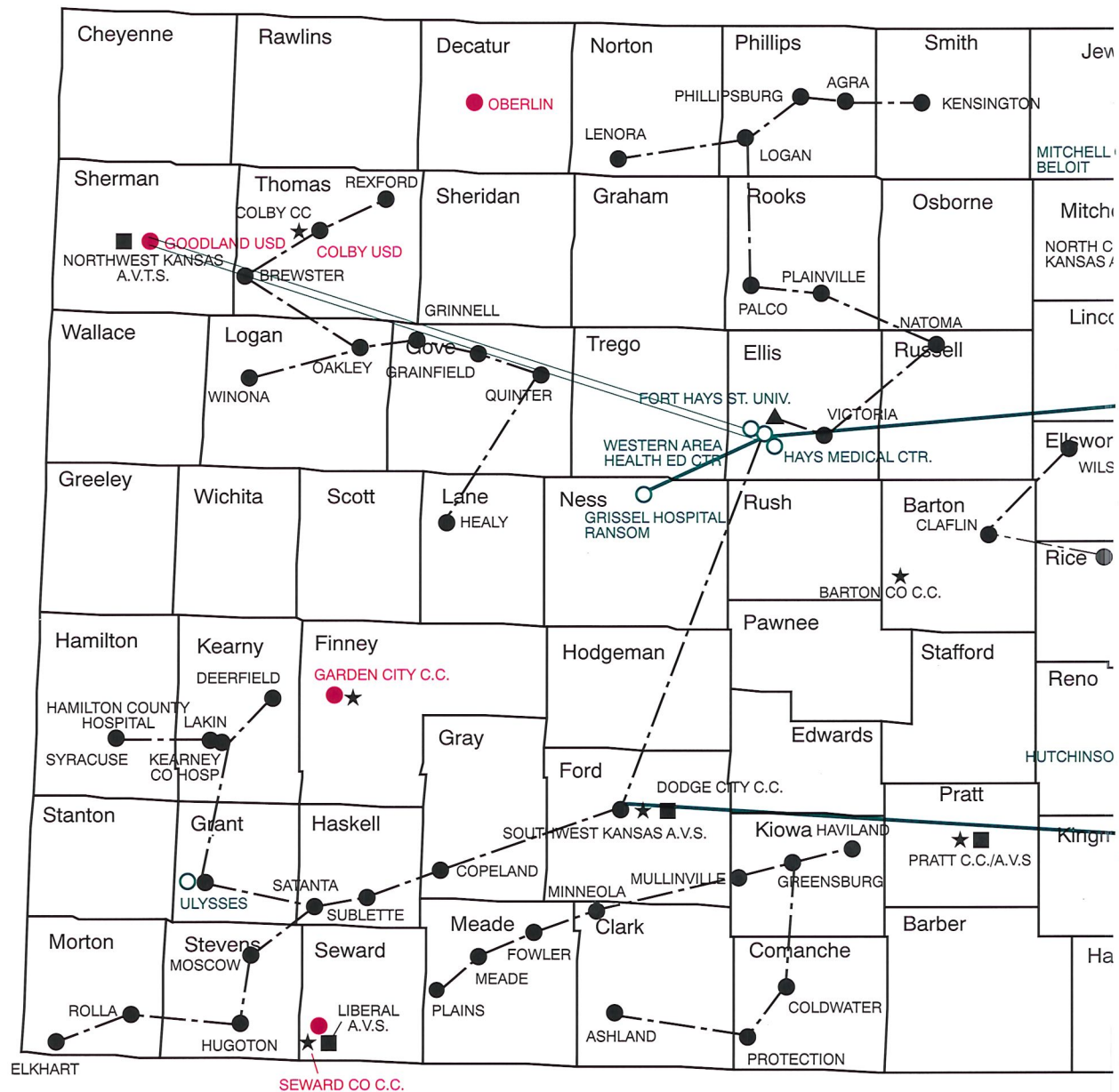
Droegemueller says its the first and one of the most crucial steps in the lifelong learning process. To keep pace with the world's

Kansas State Board of Education



Two-way interactive television in Kansas

Full-Motion and Comp Interactive Videoc



July 1993

LEGEND

- Active Full-Motion Cluster
- Future Full-Motion Site
- Compressed Video Network
- == Future Connection
- ★ Community College
- Area Vocational-Technical School
- ▲ Regents' Institution
- Compressed Video Site

- Emporia State University, Emporia
Fort Hays State University, Hays
Grissel Hospital, Ransom
Hamilton County Hospital, Syracuse
Hays Medical Center, Hays
High Southwest Plains Network, Uly
Hospital District #1, Girard
Hutchinson Community College, Hur
Kansas State Board of Education, Topeka



Capitol Complex, Topeka
Cowley County Community College, Arkansas City
KU Med Center, Kansas City (Site #2)
State Office Building, Wichita

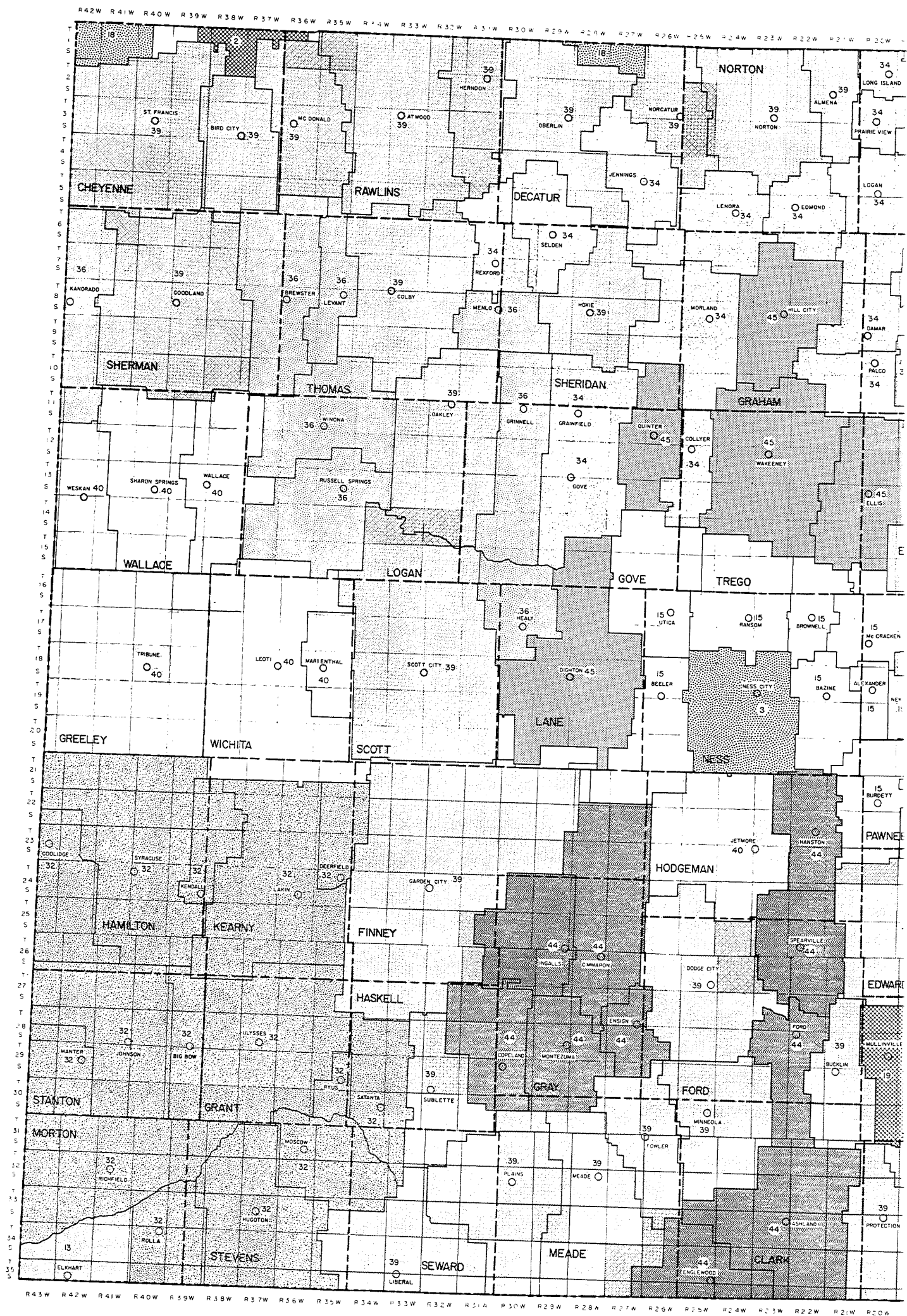
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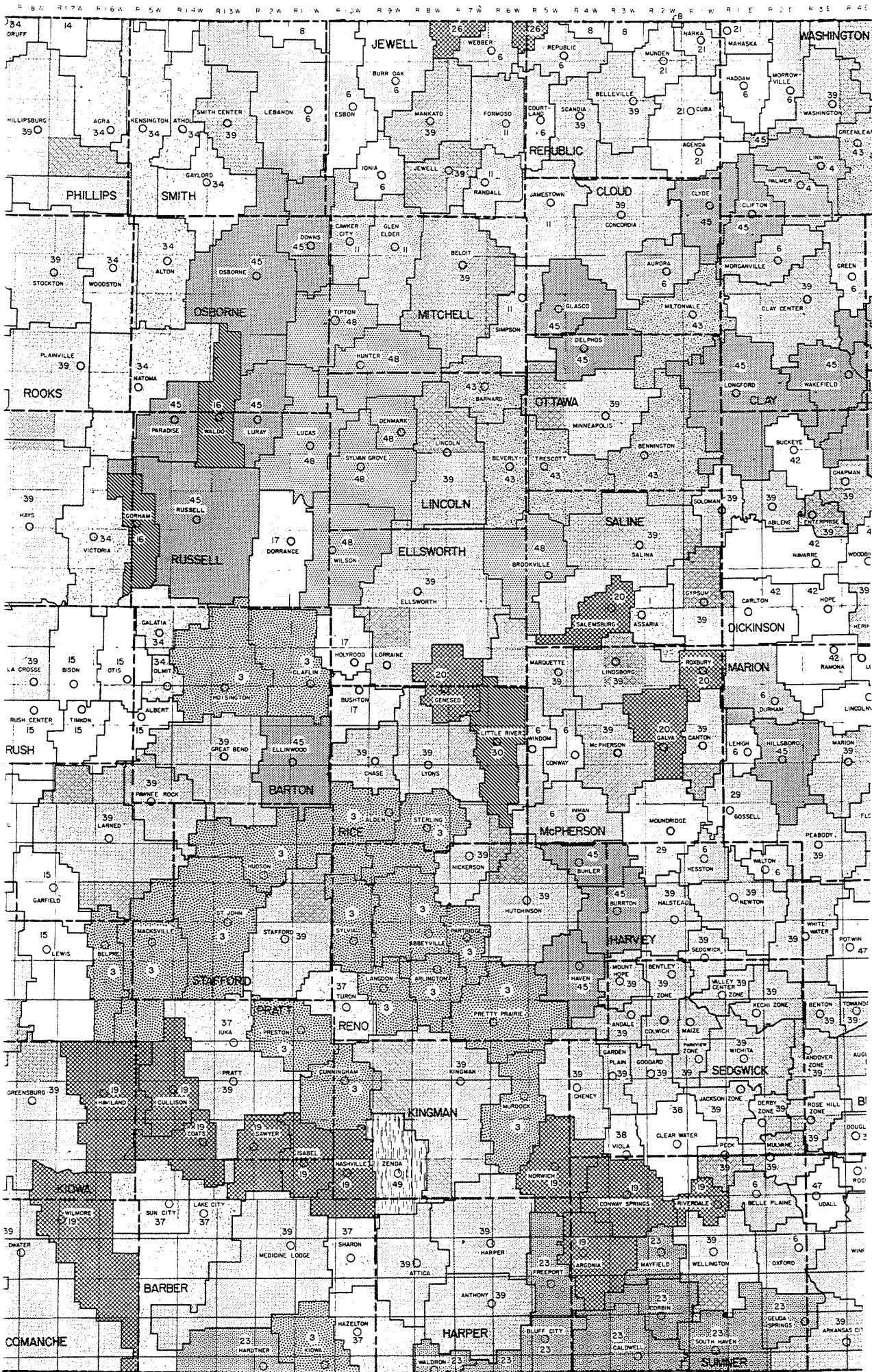
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MAP OF THE STATE OF KANSAS

SHOWING

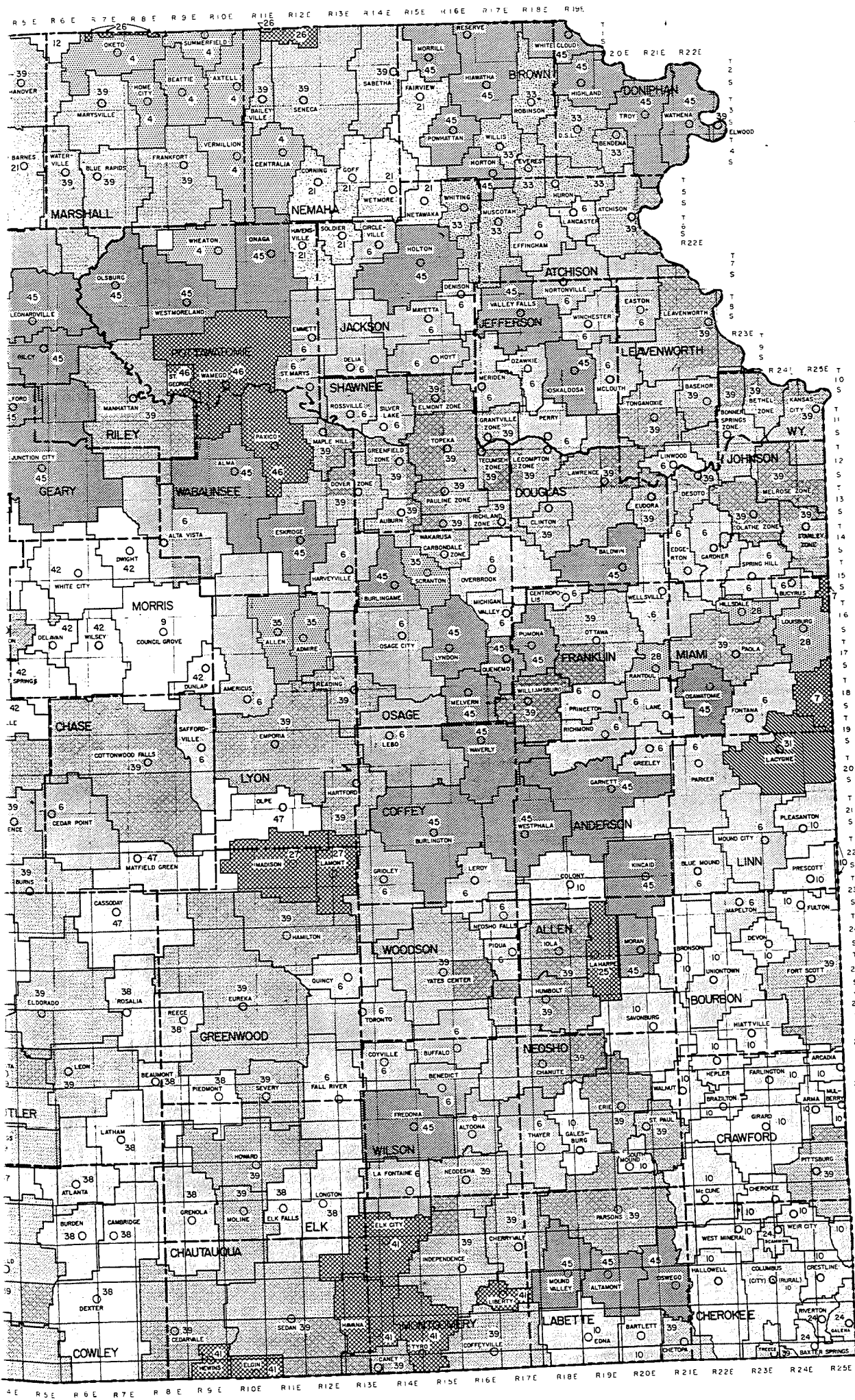
TELEPHONE EXCHANGE AREAS



SCALE

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2-39



2-40

LEGEND

EXCHANGE	CO. NO.	TWSP. B. RANGE	EXCHANGE	CO. NO.	TWSP. B. RANGE	EXCHANGE	CO. NO.	TWSP. B. RANGE	EXCHANGE	CO. NO.	TWSP. B. RANGE	EXCHANGE	CO. NO.	TWSP. B. RANGE	EXCHANGE	CO. NO.	TWSP. B. RANGE
ABBYVILLE	3	T245 R8W	CHESTER	10	T315 R24E	GALVA	20	T195 R2 W	LA FONTAINE	6	T305 R14E	NETAWAKA	21	T5 S R15 E	SAVONBURG	10	T265 R21E
ABILENE	39	T135 R2 E	CHESTER	39	T325 R17E	GARDEN CITY	39	T245 R32W	LA HARPE	25	T245 R19E	NEWTON	39	T235 R1 E	SAWYER	19	T295 R13W
ADMIRE	35	T165 R2 E	CHESTER	39	T335 R21E	GARDEN PLAIN	39	T275 R3 W	LAKE CITY	37	T315 R14W	NICKERSON	39	T255 R7W	SCAMMON	24	T325 R24E
AGENDA	21	T4 S R1 W	CIMARRON	44	T265 R28W	GARDNER	6	T145 R22E	LAKIN	32	T245 R35W	NORCATOR	39	T2 S R26W	SCANDIA	39	T35 R4 W
AGRA	34	T35 R16W	CIRCLEVILLE	6	T65 R14E	GARFIELD	15	T205 R17W	LAMONT	27	T225 R10E	NORTON	39	T255 R23W	SCOTT CITY	39	T165 R32 W
ALBERT	15	T185 R10W	CLARK	3	T15 R11W	GARNETT	45	T205 R20E	LANCASTER	6	T5 S R19E	NORTONVILLE	6	T7 S R19E	SCRANTON	35	T155 R15E
ALDEN	3	T215 R9 W	CLAY CENTER	39	T85 R3 E	GAYLORD	34	T55 R14W	LANE	6	T105 R21E	NORWICH	19	T305 R5 W	SEDAN	39	T335 R11E
ALEXANDER	15	T185 R20W	CLEARWATER	38	T295 R2 W	GENESE	20	T185 R8 W	LANDSON	3	T255 R9 W	DANLEY	39	T115 R32W	SEDERGICK	39	T245 R1 W
ALLEN	35	T165 R11E	CLIFTON	45	T5 S R1 E	GEUDA SPRINGS	23	T345 R3 E	LARNED	39	T215 R16W	OBERLIN	39	T3 S R29W	SELDEN	34	T6 S R29W
ALMA	45	T25 R21W	CLINTON	39	T135 R18E	GIRARD	10	T295 R23E	LATHAM	38	T295 R7E	OKETO	4	T1 S R7 E	SENECA	39	T2 S R12E
ALMENA	39	T25 R21W	CLYDE	45	T5 S R1 W	GLASCO	45	T85 R3 W	LAWRENCE	39	T125 R20E	OLATHE	39	T105 R23E	SEVERY	39	T285 R11E
ALTAMONT	45	T355 R19E	COATS	39	T345 R18E	GODDARD	39	T275 R2 W	LEBANON	6	T35 R11W	OLMITZ	34	T185 R15W	SHARON	37	T325 R10W
ALTA VISTA	6	T145 R8 E	COFFEYVILLE	39	T75 R33W	GOSSELL	29	T215 R1 E	LEBO	6	T195 R14E	OLSBURG	47	T205 R11E	SHARON SPRINGS	40	T135 R40W
ALTON	34	T75 R10W	COLBY	39	T325 R18W	GOFF	21	T4 S R13E	LECOMPTON (ZONE)	39	T115 R18E	ONAGA	45	T7 S R7 E	SILVER LAKE	6	T115 R14E
ALTONA	6	T295 R18E	COLDWATER	34	T125 R25W	GODDARD	39	T85 R33W	LEHIGH	6	T195 R1 E	OSAGE CITY	6	T165 R14E	SIMPSON	11	T85 R6 W
AMERIGUS	6	T185 R10E	COLLIER	10	T325 R19E	GOODHAM	16	T125 R29W	LIBERAL	39	T255 R6E	OSAWATOMIE	45	T185 R22E	SOLDIER	39	T25 R10W
ANDALE	39	T265 R3 W	COLONY	10	T325 R19E	GOVE	34	T115 R28W	LEON	39	T275 R6E	OSBORNE	45	T7 S R12W	SOLOMON	39	T135 R1 E
ANDOVER (ZONE)	39	T275 R3 E	COLUMBUS (CITY ONLY)	5	T335 R23E	GRAINFIELD PARK	34	T115 R28W	LEONARDVILLE	45	T85 R5 E	OSKALOOSA	45	T105 R9E	SOUTH HAVEN	23	T345 R1W
ANTHONY	39	T335 R7W	COLUMBUS (RURAL ONLY)	10	T335 R24E	GRANTVILLE (ZONE)	39	T265 R2 W	LEOTI	40	T185 R37W	OSWEGO	45	T335 R21E	SPEARVILLE	42	T255 R22W
ARCADE	10	T285 R25E	CONCORDIA	39	T35 R3 W	GREAT BEND	39	T195 R10W	LEROY	6	T225 R16E	OTIS	15	T175 R16W	SPRING HILL	6	T155 R23E
ARKANSAS CITY	39	T345 R4 E	CONWAY	6	T195 R4 W	GREEN	6	T195 R21E	LEVANT	36	T85 R35W	OTTAWA	39	T165 R19E	STAFFORDVILLE	39	T245 R1 W
ARLINGTON	3	T255 R8W	CONWAY SPRINGS	19	T305 R3 W	GREEN	6	T7 S R4 E	LEWIS	15	T245 R10E	OVERBROOK	39	T305 R25E	STANLEY (ZONE)	39	T145 R25E
ARMA	10	T295 R25E	COOLIDGE	32	T235 R43W	GREENFIELD (ZONE)	39	T245 R18E	LEWIS	39	T345 R33W	OXFORD	6	T325 R2 E	STERLING	39	T2 S R10W
ASHLAND	44	T335 R23W	COPING	6	T215 R14E	GREENLEAF	45	T4 S R4 E	LIBERTY	41	T335 R7E	OSAWATOMIE	45	T185 R22E	STOCKTON	39	T75 R18W
ATCHISON	1	T145 R3 W	CORRAL	23	T345 R2 W	GREENSBURG	39	T285 R18W	LINCOLN	39	T115 R7 W	PALCO	34	T95 R20W	SUBLETTE	37	T295 R32W
ATHOL	39	T6 S R20E	CORNING	21	T4 S R12E	GREENSBURG	38	T315 R9E	LINCOLN	42	T185 R4 E	PALMER	4	T3 S R3 E	SUMNER	4	T15 R10E
ATLANTA	34	T35 R14W	COTTONWOOD FALLS	39	T195 R8 E	GRINDLEY	6	T225 R14E	LINDSBURG	39	T175 R3 W	PAOLA	39	T17 S R23E	SUN CITY	37	T315 R10W
ATTICA	38	T305 R6 E	COUNCIL GROVE	9	T165 R8 E	GRINNELL	36	T115 R30W	LINWOOD	6	T125 R21E	PARADISE	45	T115 R14W	SYLVAN GROVE	48	T235 R10W
ATWOOD	39	T325 R8 W	COURTLAND	6	T3 S R5 W	HADDAM	6	T2 S R1 E	LITTLE RIVER	30	T195 R6 W	PARKER	6	T205 R22E	SYRACUSE	3	T245 R10W
AUBURN	39	T335 R14E	COURTNEY	10	T335 R25E	HALLLOWELL	39	T235 R22E	LOGAN	34	T4 S R20W	PARKVIEW (ZONE)	39	T275 R1 W	TECUMSEH (ZONE)	39	T115 R16E
AUGUSTA	39	T275 R4 E	CUBA	21	T3 S R1 W	HALLSTEAD	39	T235 R22E	LONGFORD	45	T105 R1 E	PARSONS	39	T315 R20E	TESCOTT	43	T25 R10W
AURORA	6	T7 S R2 W	CULLISON	19	T285 R15W	HAMILTON	39	T245 R18E	LONG ISLAND	34	T115 R20W	PARTISBURG	3	T245 R7 W	THAYER	6	T255 R18E
AXTELL	4	T2 S R10E	CUNNINGHAM	3	T285 R10W	HAMLIN	45	T115 R16E	LONGVIEW	39	T175 R9 W	PAULINE (ZONE)	39	T115 R16E	TIMKEN	15	T185 R17W
BAILEYVILLE	39	T25 R11E	DAMAR	34	T85 R20W	HANDOVER	39	T235 R22E	LORRAINE	42	T175 R4 E	PANWEE ROCK	39	T205 R15W	TIPTON	48	T85 R10W
BALDWIN	45	T105 R20W	DEARFIELD	44	T225 R22W	HARDNER	23	T355 R12W	LOUISBURG	28	T165 R25E	PANWEE ROCK	39	T115 R16E	TONGANOXIE	39	T115 R21E
BARNARD	45	T105 R7 W	DELAWARE	42	T165 R6 E	HARDNER	39	T325 R7 W	LUCAS	48	T115 R11W	PEABODY	39	T225 R3 E	TOPEKA	39	T115 R16E
BARNES	21	T4 S R5 E	DELIA	6	T9 S R13E	HARTFORD	45	T9 S R4 W	LURAY	45	T115 R12W	PECK	39	T295 R1 W	TORONTO	6	T255 R14E
BARTLETT	10	T345 R20E	DELPHOS	45	T9 S R4 W	HARVEYVILLE	6	T7 S R16E	LYNDS	39	T205 R8 W	PERRY	6	T115 R18E	TREECE	39	T355 R23E
BASEHOR	39	T105 R22E	DEMISON	48	T9 S R9 W	HAWAIIA	41	T345 R13E	LYONS	15	T17 S R20W	PHILLIPSBURG	39	T3 S R18W	TRIBUNE	40	T165 R40W
BAKTER SPRINGS	24	T345 R24E	DEMOKAR	39	T295 R1 E	HAVEN	21	T6 S R12E	MC CRACKEN	10	T315 R22E	HEDMONT	39	T3 S R36W	TROY	45	T3 S R21E
BAZINE	15	T165 R20W	DEMON (DOL)	33	T4 S R10E	HAVENSVILLE	19	T285 R16W	MC DONALD	39	T115 R18W	PIQUA	6	T245 R17E	TURON	37	T265 R10W
BEATTIE	4	T2 S R9 E	DERBY (ZONE)	39	T295 R1 E	HAVILAND	39	T115 R18W	MC PHERSON	39	T115 R18W	PLAIN	39	T325 R30W	UDALL	47	T315 R3 E
BEAUMONT	39	T275 R4 E	DESOTO	19	T285 R15W	HAYES	38	T335 R10E	HAZELTON	36	T175 R30W	NACKSVILLE	3	T245 R15W	ULYSSES	32	T285 R37W
BEELER	15	T185 R26W	DEVON	10	T245 R24E	HAYS	38	T335 R10E	HAZELTON	10	T275 R23E	MADISON	27	T225 R11E	UNIONTOWN	15	T165 R26W
BELLE PLAINE	6	T315 R1 E	DEXTER	38	T335 R10E	HEALY	17	T145 R11 W	HERINGTOWN	39	T165 R4 E	MAHASKA	21	T1 S R1 E	UTICA	15	T165 R26W
BELLEVIEW	39	T3 S R3 W	DIGHTON	39	T295 R1 E	HILL CITY	45	T6 S R11W	HERNDON	6	T225 R1 W	MANHATTAN	39	T105 R8 E	VALLEY CENTER (ZONE)	45	T3 S R17E
BELPRE	3	T245 R16W	DORRANCE	17	T145 R11 W	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BENDENA	33	T3 S R20E	DOUGLASS	39	T295 R1 E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BENEDICT	6	T285 R18E	DOVER (ZONE)	39	T295 R1 E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BENNINGTON	43	T125 R2 W	DOWNS	45	T6 S R11W	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BENTLEY (ZONE)	39	T255 R2 W	DRESDEN	42	T145 R8 E	HILL CITY	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BENTON	39	T265 R3 E	DUNLAP	42	T175 R9 E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BETHAL (ZONE)	39	T105 R24E	DURHAM	6	T185 R2 E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BEVERLY	43	T125 R6 W	EASTON	42	T145 R8 E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BIG BOW	32	T285 R39W	EDGEMONT	6	T85 R21E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BIRD CITY	39	T3 S R38W	EDMUND	34	T5 S R22W	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BISON	15	T175 R17 W	EDNA	10	T345 R19E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BLUE MOUND	6	T225 R22E	EFFINGHAM	6	T6 S R18E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BLUE RAPIDS	39	T4 S R7 E	EL DORADO	39	T265 R5 E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BLUFF CITY	23	T345 R3 W	ELGIN	41	T35 R10E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BONNER SPRINGS (ZONE)	39	T115 R23E	ELK CITY	41	T325 R14E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BRAZILTON	10	T295 R22E	ELK FALLS	38	T315 R11E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BREWSTER	36	T85 R36W	ELKHART	13	T365 R42W	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BRINSON	10	T255 R21E	ELLINWOOD	45	T195 R11 W	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BROOKVILLE	48	T105 R5 W	ELLIS	45	T135 R20W	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BROWNELL	15	T165 R22W	ELLISWORTH	39	T105 R15E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BUCKEYE	42	T115 R2 E	ELMONT (ZONE)	39	T3 S R23E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BUCKLIN	39	T295 R21W	EMMETT	39	T105 R11E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BUCYRUS	6	T275 R16E	EMPHORIA	39	T105 R11E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BUFFALO	45	T225 R4 W	ENGLEWOOD	44	T275 R27W	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BUNLER	39	T315 R3 E	ENTERPRISE	39	T115 R3 E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BURDEN	39	T315 R3 E	ERIE	6	T3 S R10W	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BURDET	15	T215 R20W	ESBON	6	T3 S R10W	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BURLINGAME	45	T215 R18E	ESKADORE	39	T105 R11E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BURLINGTON	39	T225 R5 E	EUDORA	39	T105 R11E	HILLSBORO	45	T6 S R12E	HESSTON	6	T225 R1 W	MANHATTAN	47	T245 R4 E	VALLEY FALLS	45	T85 R17E
BURNS																	

BEFORE THE HOUSE ENERGY AND NATURAL RESOURCES COMMITTEE

**PRESENTATION OF THE
KANSAS CORPORATION COMMISSION
DON LOW - DIRECTOR, UTILITIES DIVISION
ON
H.B. 3061**

March 14, 1993

I. H.B. 3061 prohibits the KCC from granting exclusive territorial rights to any telecommunications utility. The effect of this bill would depend on how broadly it might be construed.

- If the bill means that the certificates cannot be exclusive but leaves the Commission with discretion to allow competition, would not change current practice.

- On other hand, the bill could be interpreted to mean that at least one telecommunications competitor must be allowed to provide service. Would affect KCC decisions, including pending application by Competitive Access Provider.

- In any event, policy decisions on telecommunications competition are addressed by pending federal legislation. Among provisions is prohibition against states from maintaining barriers to entry, including legal barriers.

- This policy decision overrides traditional assumption that provision of utility services is most efficiently conducted as regulated monopoly- where utility has reciprocal obligation to serve all on nondiscriminatory basis and also right to provide service.

II. Vision of National Information Infrastructure (NII) or Information Superhighway impetus for federal legislation.

- View that competition will best allow for development of NII as convergence of telecommunications, computers and video technologies occurs.

- Benefits seen as falling into four groups:

- Electronic mall: commercial applications such as movies on demand; videogames; shopping, banking, etc.

- Hi tech business: increased economic productivity and competitiveness through faster data interchange, database access, telecommuting, and other business applications.

*Energy & Natural Resources
attachment # 3
3/14/94*

- ✓ - Governmental/educational/medical: improved performance of these functions through electronic town meetings; distance learning and telemedicine. Vision includes discounted rates for services.
- Electronic commons: Non commercial exchange of information, opinions, through on-line services such as Internet.
- ✓ - Potential Players in competitive network of networks:
 - Traditional telephone companies. Have technical knowhow on switching functions but embedded facilities mostly copper. Likely that fiber will be required for most advanced applications but compression techniques rapidly evolving.
 - ✓ - Competitive Access Providers (CAPs): Began in late 1980's to install fiber optic rings around major metropolitan areas to provide alternative connections between end users and IXC's. Started with originating traffic of large volume users but FCC collocation orders expand market to all traffic. First CAP, Teleport, now owned by four cable companies. MCI recently announced intent to build own systems.
 - ✓ - Wireless or Personal Communications Services (PCS). Cellular is rapidly expanding but not known whether will be cost competitive with local service. PCS uses smaller cells, different frequency which may allow for higher quality transmission, lower cost.
 - Cable TV. Passes over 90% of households. Existing coaxial cable links to homes have 900 times capacity of telephone copper links. Many systems already overbuilding with fiber to expand channel capacity. One estimate is that would cost cable industry \$20 billion to deploy new technology compared to \$400 billion for telcos. Industry has developed architecture to link systems into regional networks, which could include interconnections to wireless or CAP networks.
 - ✓ - Electric utilities. Several large utilities, like Entergy, conducting pilots with fiber/coaxial links to homes for automated control of energy use and demand. Claims that \$1200 per home costs justified by avoided cost of generation due to 20% reduction in energy demand with use of only 5% of system capacity.
- ✓ - Uncertain how competition will evolve.
 - Economics may not support multiple wires to home. Some suggest that "last mile" link is "natural monopoly" so that inefficient to have too much capacity.

- ✓ - Competition may be in services provided over single wire rather than facilities to each home.
- ✓ - Costs of embedded obsolete plant may not be recoverable in face of competition. AT&T wrote off millions after divestiture.
- Incumbents have incentive to build infrastructure with noncompetitive revenues now.

✓
III. Federal legislation. (See Summary) Details are complex and vary but apparently legislation will be enacted which:

- Preempt states from maintaining barriers to entry in local exchange markets.
- Requires telco's to provide equal access, interconnection, unbundled services to facilitate network of networks. Interoperability standards to be established and "number portability" issues to be addressed.
- Lifts MFJ "line of business" restrictions on Bell Operating Companies.
- Modifies rules regarding telco ownership and provision of video services and programming.
- Requires examination of definition of "universal service" and funding mechanisms.

IV. Universal Service.

- Currently, one of primary goals of telecommunications regulation is promotion of universal service. Usually refers to percentage of households that have Plain Old Telephone Service (POTS). Around 95% nationwide.
- To promote universal service, have tried to keep basic local rates affordable.
- Key factor is allocation of costs, especially joint and common costs, among various services. Large majority of costs associated with local loop.
 - Currently, 25% of costs allocated to interstate access services but about half of that recovered through EUC of \$3.50/ month.
 - Interstate access structure also contains Universal Service Fund mechanism through which additional costs above national weighted average cost also recovered from IXCs. Especially necessary for small companies serving rural areas with low customer density and long loops. On national basis, companies with under 200,000 loops receive average of \$6.74 through USF which would otherwise need to

be recovered in intrastate charges, either access, long distance or local rates, for total of \$24 per month.

- Of total \$725 million, approximately \$17.4 million of USF received by Kansas companies. Amount represents decrease in 1994 due to capping decision by FCC.
- Competitive and technological changes will require re-examination of what services to be promoted under Universal Service and how funding will work.
 - States have, and legislation would require, re-examination of meaning of universal service in Information Age. Could include Touchtone, higher transmission speeds, greater calling scope, etc?
 - REA has proposed rules requiring adoption of statewide modernization plans if borrowers to maintain eligibility. Contains goals on transmission speeds, broadband capability and other services.
 - Various proposals have been made for mechanisms for all telecommunications providers to contribute to fund, which may be targeted at customers rather than companies.
- The conflict will be between attempting to provide all customers with access to the information age (Pretty Advanced New Stuff - PANS) and keeping rates affordable.
 - Decisions on allocations of costs of new technologies, including fiber costs, to all services, (including new, existing, competitive, or unregulated), will be critical.
 - Amendments to HR 3636, (Markey bill), included provision allowing residential customers to "opt out" from unwanted advance services.

V. State role.

- Although federal legislation likely to charge FCC or Joint Board with establishing guidelines or rules for many of decisions, states will probably have significant implementation role.
 - States will need to establish and enforce quality of service standards to ensure that competition does not result in degradation of services.
 - States will need to determine pricing parameters, and other terms and conditions under which competitors provide services to ensure that incumbent firms do not abuse market power while allowing fair

competition.

- States may need to enforce other standards of conduct, such as structural separations rules, cost allocations, and open access, which will be established.
- Under one bill, states will determine when to allow BOCs into intrastate, interLATA market.
- Transition to full competition will not take place overnight and may require more active oversight than under traditional regulation.