MINUTES OF THE SENATE COMMITTEE ON COMMERCE.

The meeting was called to order by Chairperson Senator Karin Brownlee at 8:30 a.m. on January 24, 2001 in Room 123-S of the Capitol.

All members were present except:

Committee staff present:

April Holman, Legislative Research Department
Robert Nugent, Revisor of Statutes
Lea Gerard, Secretary

Conferees appearing before the committee:

Mark Uhart, Education Market Manager-Sprint
Scott Petrie, VP Broadband Communications

Others attending:

See attached list.

Mark Uhart, Education Market Manager-Sprint gave a brief summary of the essential tasks of the KAN-ED Board (Attachment 1). The telecommunications and cable industry worked together as part of the task force which met during the 2000 interim. Because of the complexity of a KAN-ED network in a cost effective manner there are some essential tasks to be completed. The KAN-ED Board can be any governing body or any organization who is assigned the responsibility for receiving information from vendors and customers. The customers are the libraries, public/private schools, technical schools and colleges and universities throughout Kansas. The task force gathers, analyzes data and assesses customer needs for a network database.

Scott Petrie, VP Broadband Communications, Cox Communications gave a presentation on the technology of KAN-ED (Attachment 2). The KAN-ED network is comprised of peering points or hub sites where local schools can inter-connect to the backbone using local providers. Scott Petrie said it was like a turnpike with entrances to the turnpike which are the toll booths or peering points.

Mr. Petrie, in response to a question on how the governing board is put together, responded it is a private/public relationship with telecommunication providers and education representatives.

In response to a question about how we insure that industry members efforts are directed at getting the school systems the best deal as opposed to wearing their corporate hat, Mr. Petrie stated it will be educating members of the board on tariffs, discounts and individual cost base pricing to ensure all members are acting in the best interest of the network.

Senator Steineger requested to see a map of Kansas that would show the cable or fiber optic assets we have. What kind of a network system does the State of Kansas have?

Meeting adjourned at 9:30 a.m.

The next meeting is scheduled for January 25, 2001 at 8:30 a.m.

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SENATE COMMERCE COMMITTEE
GUEST LIST
DATE: JANUARY 24, 2001

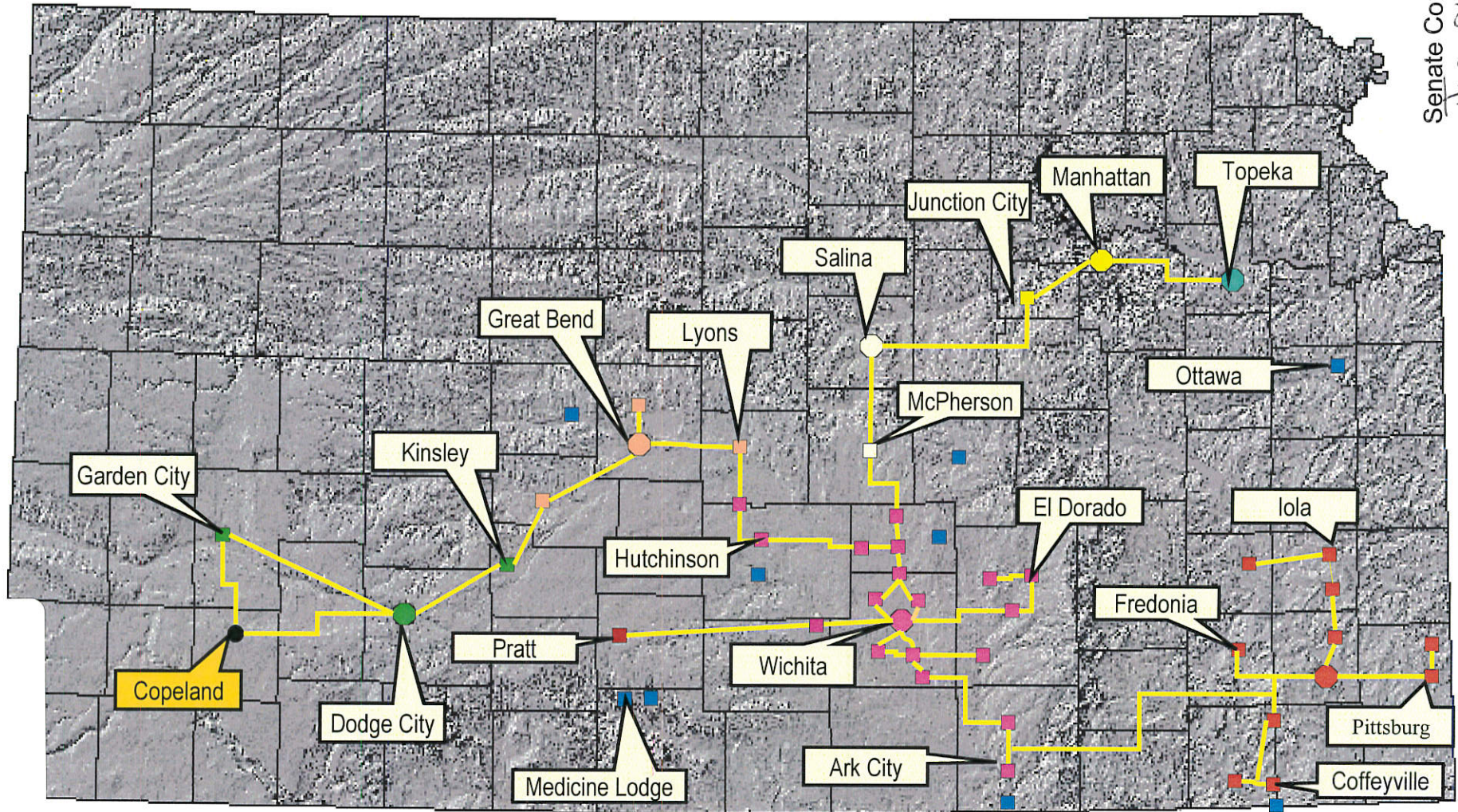| NAME	REPRESENTING
Rob Hodges	KTIA
Bill Speed	SW Bell
Doug Lawrence	Connect Kansas
Roger Frantz	KGE
Ken Bone	Hein/Weir Chtd.

KAN-ED BOARD ESSENTIAL TASKS

- Gather and analyze data from potential KAN-ED customers, telecomm/cable service providers, and ISPs.
- Assess customer needs (LANs, WANs, bandwidth, Internet access, interactive video, content, training, etc.)
- Develop the master needs and capabilities database.
- Primary contractor/liaison for telecomm/cable industry.
- Assess the level of E-rate participation and success in acquiring discounts for telecomm services and Internet access. Aggregate data circuit requirements.
- Establish specifications and standards for the network.
- Develop a comprehensive request for proposal (RFP).
- Manage the KAN-ED fund and operational budget.
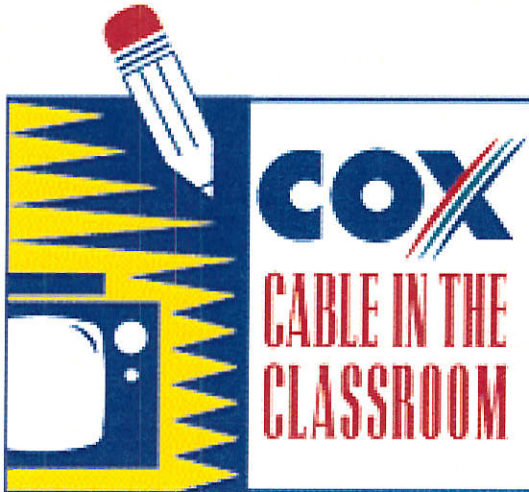
Sprint

Prepared by Mark Uhart
LTD's Education Markets Group

Cox's Kansas State Operations

Garden City
Copeland
Dodge City
Kinsley
Great Bend
Lyons
Pratt
Hutchinson
Medicine Lodge
Wichita
Ark City
Salina
McPherson
Junction City
Manhattan
Topeka
Ottawa
El Dorado
Iola
Fredonia
Pittsburg
Coffeyville

Senate Commerce Committee

January 24, 2001

Cox's Commitment to Education

Through **Cable in the Classroom**, Cox provides over 400 local schools with *free* cable television service in the state of Kansas. Schools receive teacher support materials and access to the *Cable in the Classroom* monthly program guide. The program represents an investment of over $420 million by the cable industry to enhance the resources of schools with more than 540 hours of commercial-free educational television programming each month.

Senate Commerce Committee   **January 24, 2001**

Cox's commitment to Education

PROJECT **K.I.D.S.**

COX COMMUNICATIONS

www.coxprojectkids.com

COX COMMUNICATIONS OFFERS FREE HIGH SPEED INTERNET TO KANSAS SCHOOLS THROUGH PROJECT K.I.D.S.

*Kansas students will soon have free access to the technology of the future*

WICHITA – Kansas schools and libraries can soon connect to the future with **free high speed Internet** access from Cox Communications. Project K.I.D.S. (**K**ansas **I**nternet **D**onation for **S**chools), will provide public and private schools and libraries in Cox's service areas with free Road Runner high speed Internet service that can be fed to every computer in their buildings. The donation represents an annual commitment to the state of Kansas of more than $3 million dollars.

Senate Commerce Committee   **January 24, 2001**

Wide Area Networks and Distance Learning
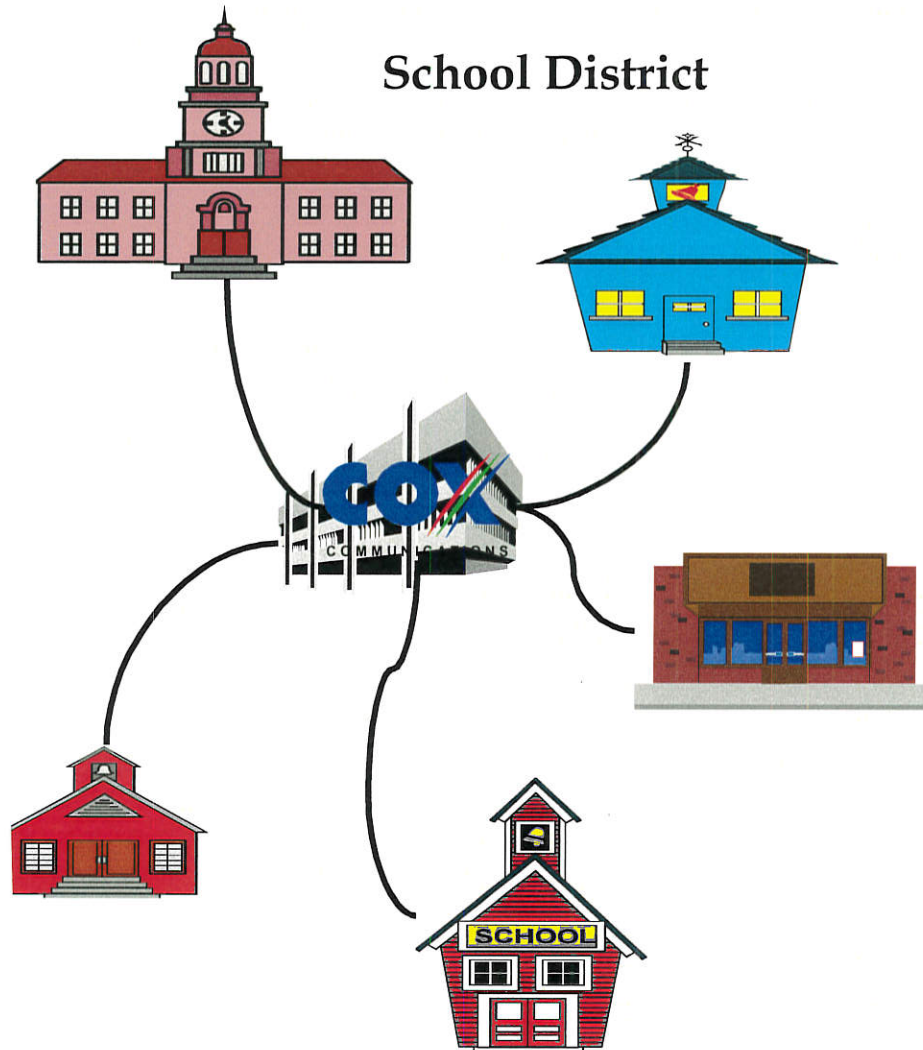
School District

McPherson Schools

Wichita Public Schools

Newton Schools

El Dorado Schools

Garden City Schools

Auburn Washburn Schools

Pittsburg Schools

Great Bend Schools

Hoisington Schools

Sedgwick Schools

Burrton Schools

Hutchinson Community College

Fairfield School District

Hesston

Salina Public Schools

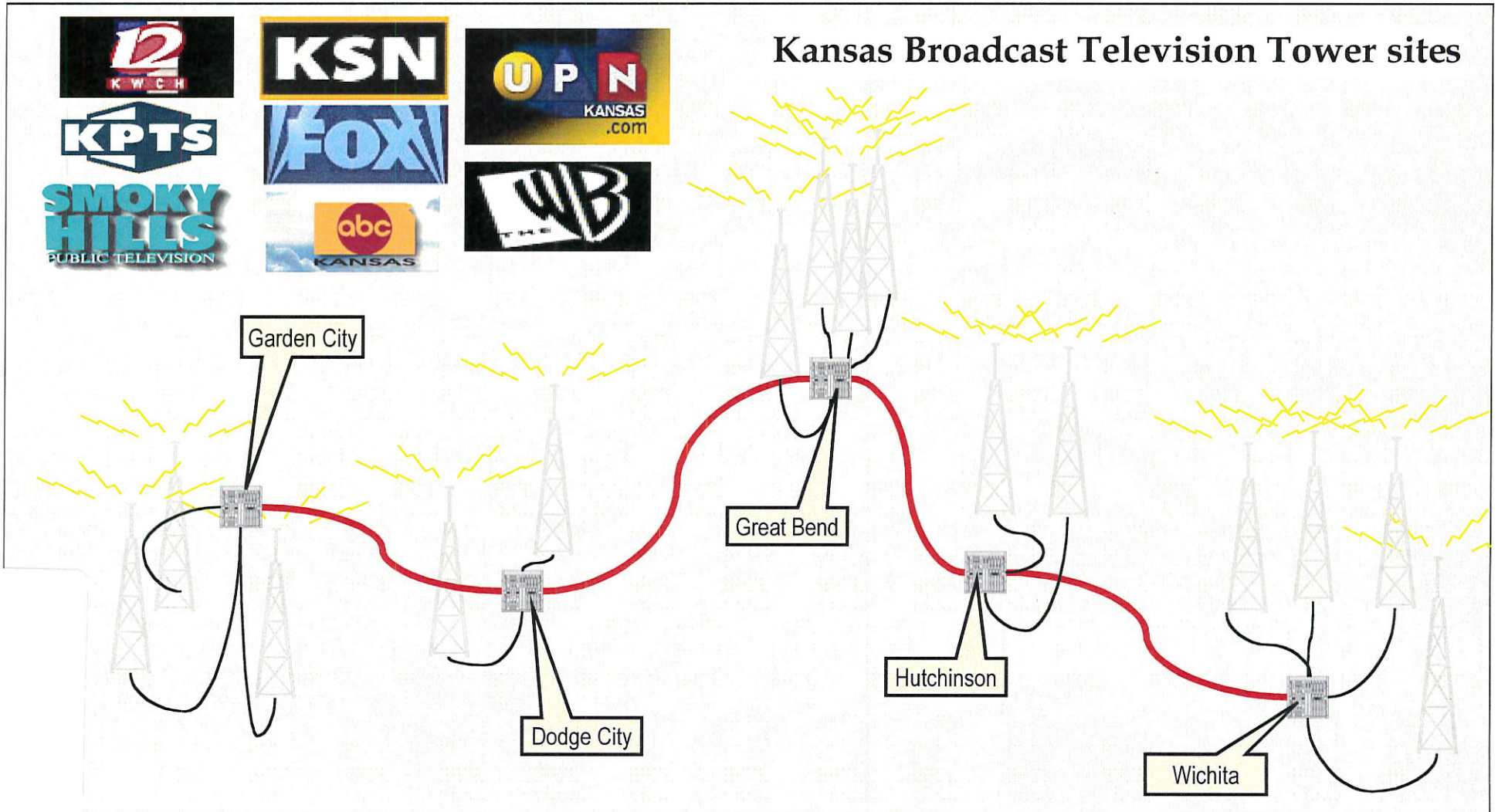**Senate Commerce Committee**

January 24, 2001

Cox's Fiber Optic Network
Transports Studio Quality Video across Kansas

Kansas Broadcast Television Tower sites

Garden City

Great Bend

Dodge City
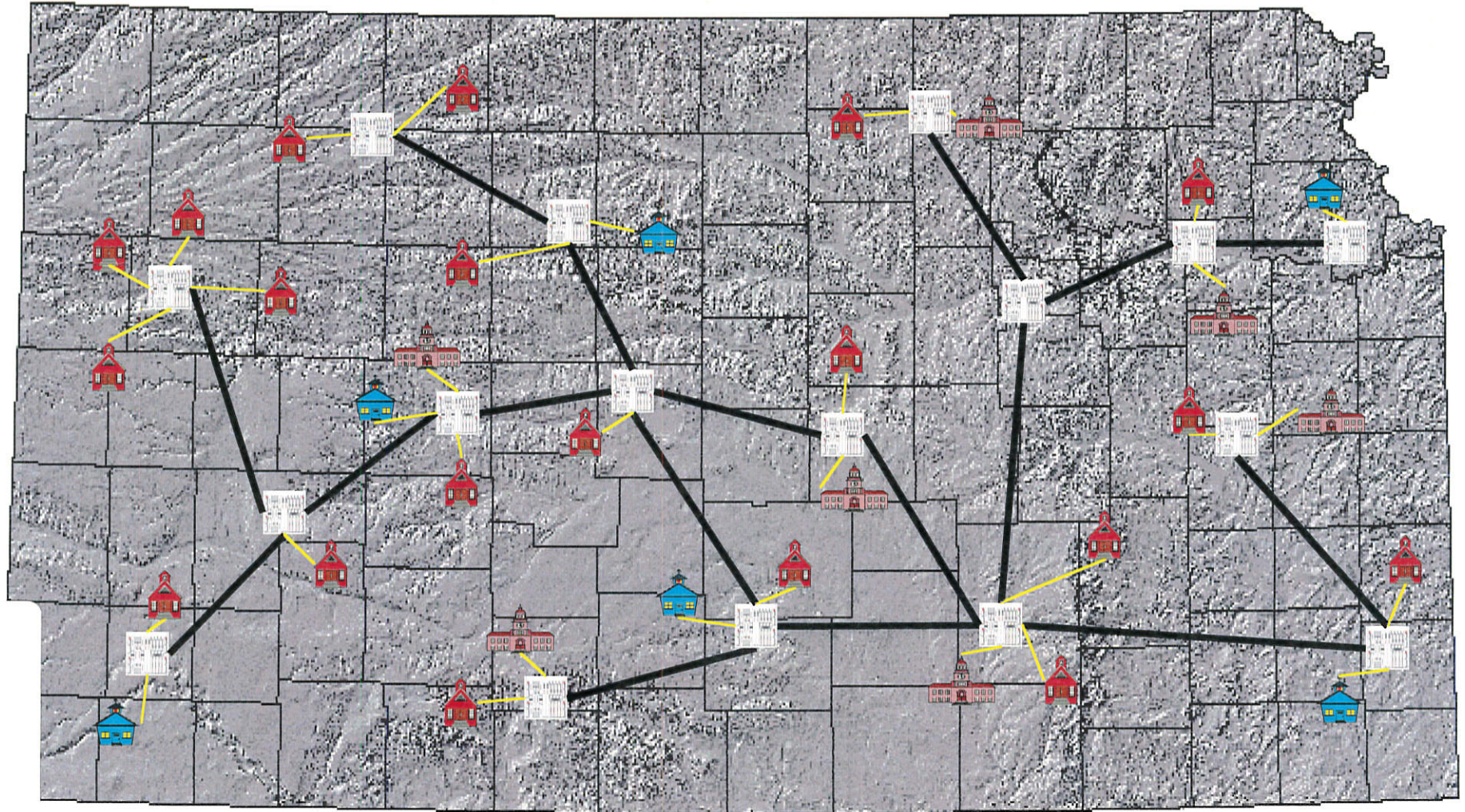
Hutchinson

Wichita

Senate Commerce Committee

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KAN-ED 10,000 FT VIEW

Strategically located "Peering Points" connected by a Highspeed Fiber optic Backbone

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A KAN-ED Simple Network Drawing

Hutchinson
Backbone Provider
Peering Point

KanEd (Internet)
KanEd (data)
KanEd (video)

Content
Provider

Dedicated Fiber
Connection

Internet
Provider

Topeka
Backbone Provider
Peering Point

IP Fiber Optic
Backbone

Wichita
Backbone Provider
Peering Point

Dedicated Fiber
Connection

IP Fiber Optic
Backbone

Internet

Broadband Internet
Provider

Broadband
Connections

Dedicated Fiber
Connection

d (data)

KanEd (data)

KanEd (data)
KanEd (video)

Dedicated Fiber
Connection

Large
School

KanEd (Internet)
KanEd (data)
KanEd (video)

Internet

Dedicated Fiber
Connection

Broadband
Connection

Wireless Internet
Provider

KanEd (data)
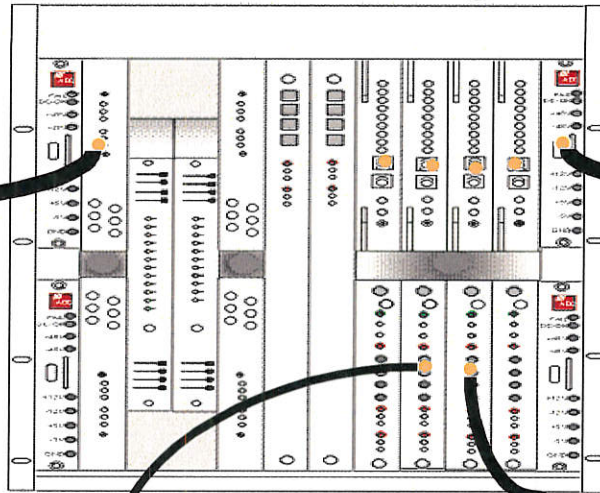
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KAN-ED Peering Point
a closer view

Backbone Provider Peering Point

Fiber Optic Network
To Next Peering Point

Fiber Optic Network
To Next Peering Point

KanEd (data)
KanEd (video)

Dedicated Fiber
Connection

Dedicated Fiber
Connection

ROAD RUNNER
HIGH SPEED ONLINE ™

ROUTER/ FIRE WALL

CABLE MODEM

CABLE MODEM

KanEd (data)

KanEd (data)

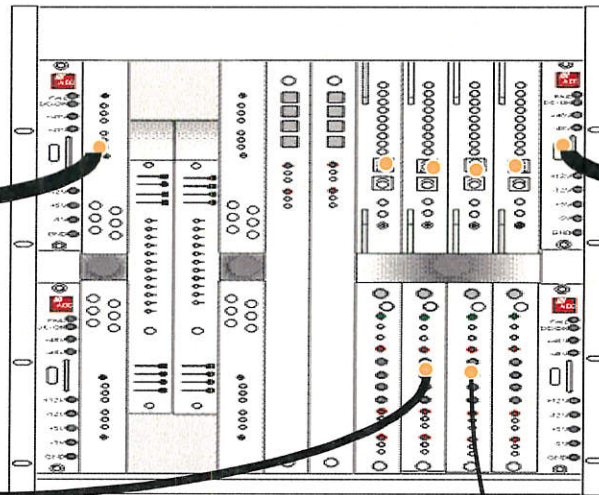**Senate Commerce Committee**

COX
COMMUNICATIONS

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KAN-ED Network Connections

Backbone Provider Peering Point

Network requires Layer 3 IP Routing
for Quality of Service for IP Video

Fiber Optic Network
To Next Peering Point

Fiber Optic Network
To Next Peering Point

**Specify Backbone
(size) X Gbps**

**Optical Transport
using Internet
Protocol (IP)**

**Specify Backbone
(size) XGbps**

**Optical Transport
using Internet
Protocol (IP)**

**Connections for sites
requiring Distance
Learning (IP) Video and
Data Collaboration.**

**Dedicated 100 Mbps
Ethernet connections to
peering point**

**Connections for sites
requiring Data
Collaboration only**

**Minimum 1 Mbps
Ethernet (IP) connections
to peering point**

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The KAN-ED Network

Peering Hub Points and Network Backbone:

Peering locations should be strategically located in areas where the greatest number of sites could connect.

Backbone should be all IP packet based transport using layer 3 routing for intelligent routing and QoS. (Quality of Service allows priority assignment of mission critical data such as video.)

Hub Points and Backbone need to be bid out on a link by link (2 peering points and a backbone route) basis to qualified providers in Kansas.

All Network Backbone providers must allow all qualified Local Loop providers to connect (peer) to backbone.

Bandwidth on Backbone should be upgraded as demand requires.

Local Loop Connections (2 ways to connect to the KANED network):

Data local loop connections: These should be specified at a minimum of 1 Mbps Ethernet per site.

Video local loop connections: These should be specified at 100 Mbps Ethernet with layer 3 routing for QoS.

Network Monitoring:

All Elements of the network should be SNMP manageable. Contract with a 3rd party for network management services.

Internet Services:

To preserve precious bandwidth, Internet services should only be routed on Backbone to sites that cannot reasonably obtain such services from a local provider.

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The KAN-ED Network Oversight Board

Determine Type of Services Transported:

Two-way Interactive Video
Data Collaboration between sites
Access to Content
Internet

Determine Site Locations and User Requirements:

Work with Education, Libraries, and Rural Hospitals to determine sites and service required.

Determine Local Loop Connection specifications:

Two-way Interactive Video: (10 Mbps Ethernet with Layer 3 QoS)

Data Collaboration between sites: (minimum 1 Mbps Ethernet)

Access to Content: (minimum 1 Mbps Ethernet)

Internet: (minimum 1 Mbps Ethernet)

Work with Telecommunications Providers:

Based upon the end user site locations, work with Telecommunications Industry to determine the most efficient locations for Peering Hub sites.

Based upon the end user Services required, calculate size of Backbone between Peering Hub site locations.

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The KAN-ED Network Oversight Board

RFP:

Put together Request for Proposals for all Backbone and Peering Hubsite locations and Local Loop Connections to determine costs.

Based upon RFP responses determine Total Estimated Cost of network

Determine "Flat Rate" Price Structure for Sites:

Determine how much state will pay per site

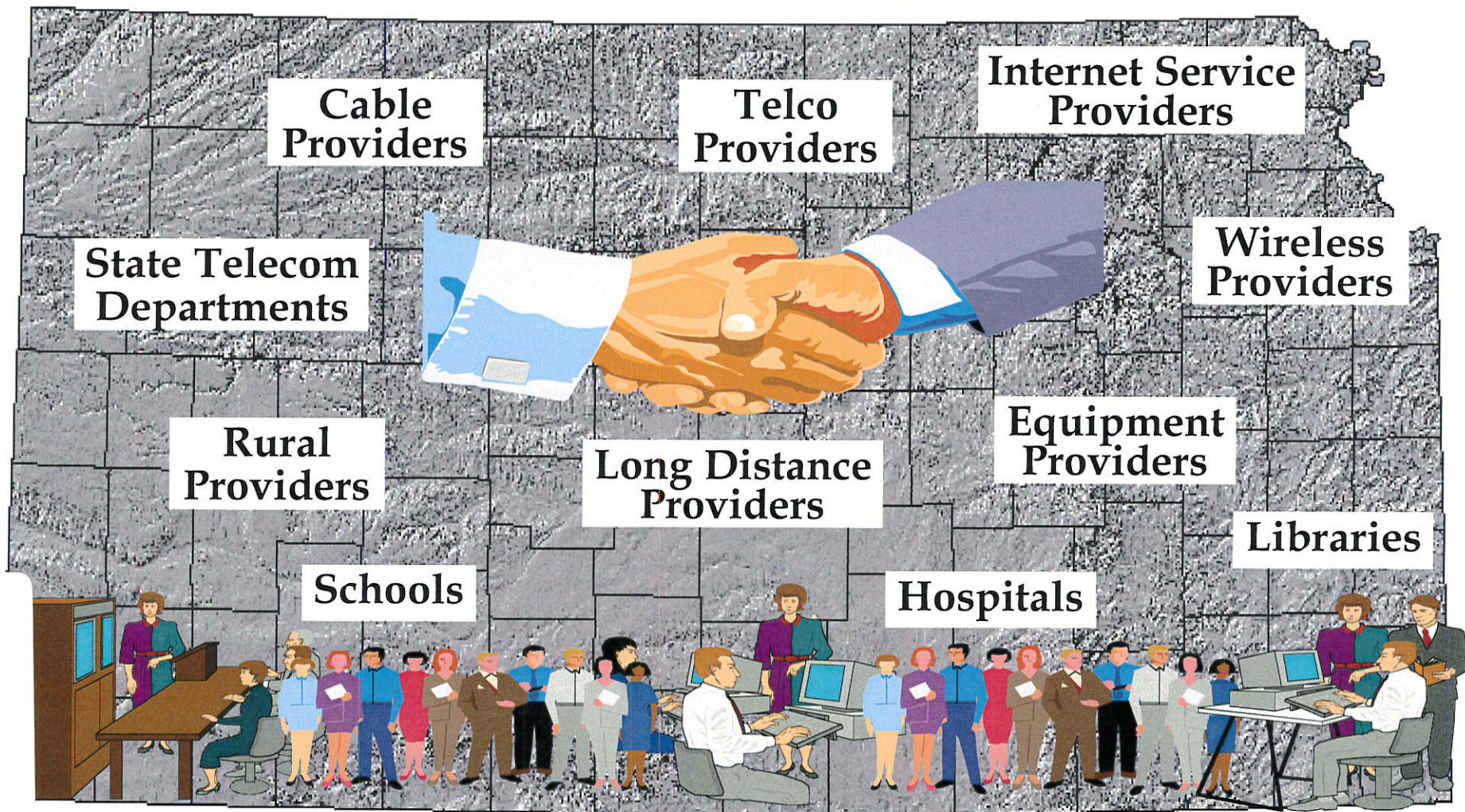Determine how much site should pay (E-rate is applicable)

Get Commitments from Sites

Begin Formal Requests for Proposal to build network

The KAN-ED Board
Public / Private Partnerships
are **REQUIRED**

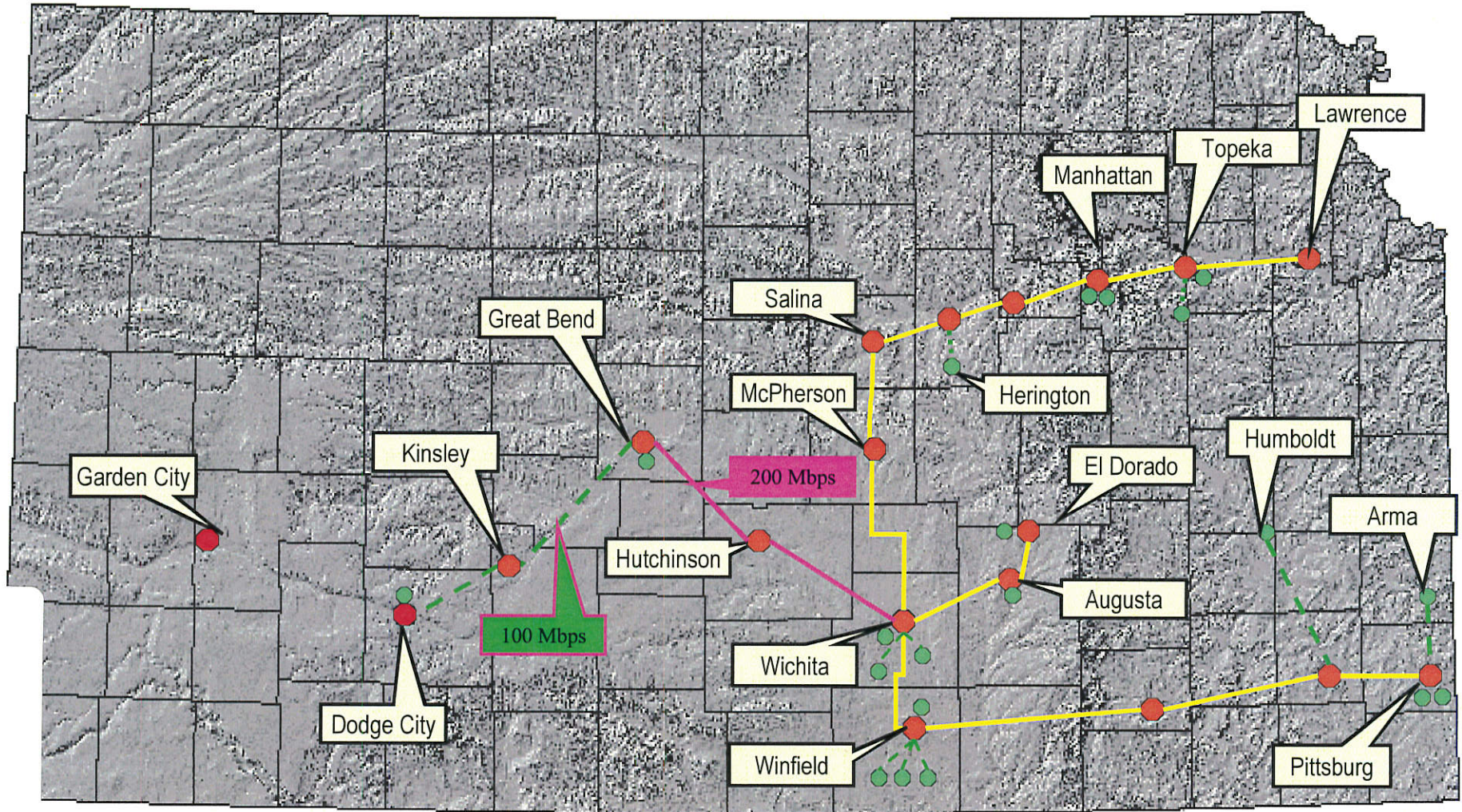Cable Providers

Telco Providers

Internet Service Providers

State Telecom Departments

Wireless Providers

Rural Providers

Long Distance Providers

Equipment Providers

Libraries

Schools

Hospitals

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RECENT DISTANCE LEARNING PROPOSAL

ONLY COX NETWORK SHOWN

(PARTNERED WITH 5 OTHER PROVIDER NETWORKS NOT SHOWN HERE)

Lawrence

Topeka

Manhattan

Salina

Great Bend

McPherson

Herington

Humboldt

Kinsley

El Dorado

Arma

Garden City

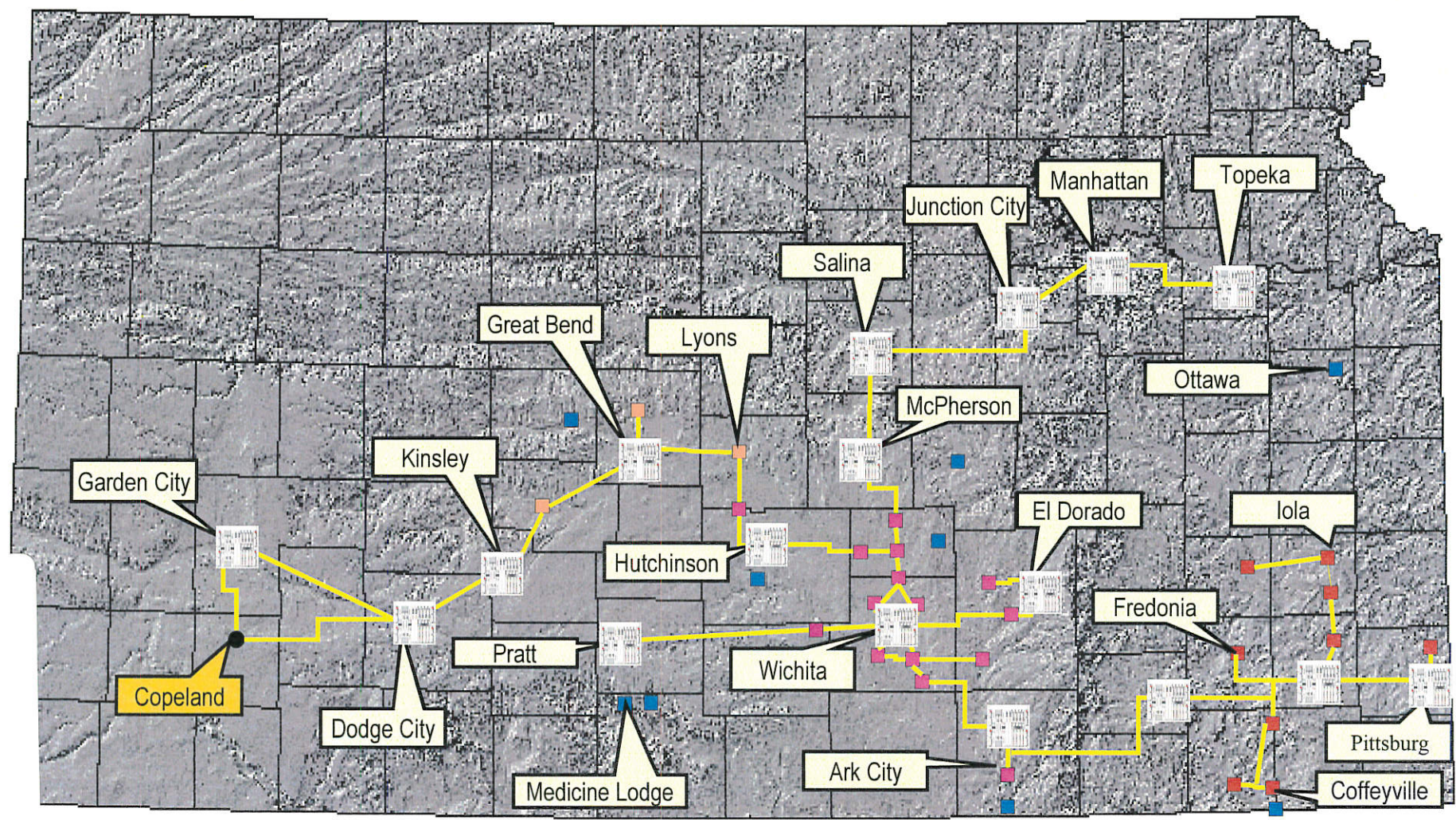200 Mbps

Hutchinson

Augusta

100 Mbps

Wichita

Dodge City

Winfield

Pittsburg

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Cox's Kansas State Operations
Overlaid with KANED Backbone and Peer points

Labels on map:
Manhattan • Topeka • Junction City • Salina • Great Bend • Lyons • Ottawa • McPherson • Kinsley • Garden City • El Dorado • Iola • Hutchinson • Fredonia • Pratt • Wichita • Copeland • Dodge City • Medicine Lodge • Ark City • Pittsburg • Coffeyville

January 24, 2001

COX IS COMMITTED TO
WORK FOR KANSAS COMMUNITIES!

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