

MINUTES OF THE House COMMITTEE ON Communication, Computers and Technology

The meeting was called to order by Representative Mike Meacham at
Chairperson

3:30 a.m. on February 16, 1983 in room 522-S of the Capitol.

All members were present except:

Committee staff present:

Marlin L. Rein, Chief Legislative Fiscal Analyst, Committee Staff Director
Sherry Brown, Fiscal Staff, Research Department
Chris Stanfield, Fiscal Staff, Research Department
Arden K. Ensley, Revisor of Statutes
Betty Ellison, Secretary to the Committee

Conferees appearing before the committee:

Mr. Laurence J. Kunkel, Director of Telecommunications
Department of Administration

Mr. Kunkel distributed some exhibits from Volumes II and III of the Telecommunications Plan (Attachments 1, 2 and 3) and continued his testimony begun on February 15. He introduced two women of the Telecommunications Office Staff: Marian Barker, switchboard operator and Dixie Meyer, clerk-typist and statistician.

Mr. Kunkel stated that the particular request for funds at this time involves planning a path from Kansas City to Topeka to Salina to Wichita, with the spurs to K-State, Hutchison and KU. (Attachment 3) Chairman Meacham asked if this represented the \$450,000 planning money that the Senate has now in the Department of Administration budget and the reply was yes. Mr. Kunkel said that this route covers the bulk of the population and activity centers of the state; it covers about 50 percent of what the state uses for telecommunications now. Chairman Meacham commented that Pittsburg State badly needs a new phone system. Mr. Kunkel replied that Pittsburg State will get a new phone system within the next few months and it will be a top-of-the line digital communication system. The chairman wondered if it wouldn't be cheaper to call direct from Kansas City to Wichita or vice versa rather than running the signal to Salina and down to Wichita. Mr. Kunkel's answer was that the chairman was correct, but they picked up more usage along the proposed route to justify that in the route via Salina. Mr. Kunkel said the planning was based on cost effectiveness.

Mr. Kunkel commented that what prompted the state's planning activity was the uncontrollable cost increases which are even more due to divestiture and deregulation. There also is an increasing need for data circuitry, video and other kinds of communication services.

Representative Rolfs commented that he understood that with the corresponding increase in line rates, there would be a decrease in long distance rates. Mr. Kunkel explained that the state uses mostly private line service. There will be a decrease in the cost of message rate service, probably 10 percent, but the state uses little of that.

Representative Rolfs asked what a Telpak is. Mr. Kunkel explained that it is a bulk offering belonging to Southwestern Bell, which comes in packets at a special rate. It has been advantageous to the state but the Kansas Corporation Commission plans to discontinue it in 1984. Representative Rolfs inquired about MPL and learned that it is a multi-scheduled private line service. This is an AT&T tariff approved by the Federal Communications Commission. If the FCC takes over regulatory

CONTINUATION SHEET

MINUTES OF THE House COMMITTEE ON Communication, Computers and Technology
room 522-S Statehouse, at 3:30 ~~xx~~/p.m. on February 16, 1983

responsibility in Kansas, the KANS-A-N rate structure will be based on MPL with AT&T.

A guest, Mr. Terry Brown of DISC, suggested that the committee was not clear on the distinction between private line rates and measured long distance rates. Mr. Kunkel explained that message rate service is call by call service considered in terms of time and distance. This is direct distance dial type calling and is the thing that is going to go down in cost. The state uses private line service - this is less expensive because of rate service.

Mr. Kunkel discussed Centrex, local telephone service. He said that the increase in that cost in 1979-80 was what caused the state to develop a plan of its own.

The chairman asked Mr. Kunkel if he could return the following day to complete his testimony and Mr. Kunkel agreed. Chairman Meacham asked for details regarding assumptions on tariffs at the next meeting.

The meeting was adjourned at 4:30 p.m. by the chairman

The next meeting of the committee will be at 3:30 p.m. on February 17, 1983.

TELECOMMUNICATIONS LAW

75-4709. Control of telecommunication services of state agencies under secretary of administration. The secretary of administration shall make provision for and coordinate all telecommunications services for all divisions, departments, and agencies of the state. The secretary of administration shall have the authority to control the acquisition, retention, and use of all telecommunications services for all divisions, departments, and agencies of the state, and to develop and review plans and specifications for telecommunications services throughout the state.

75-4710. Telecommunications services defined. Telecommunications services include, but shall not be limited to, any transmission, emission, or reception of signals of any kind containing communications of any nature, by wire, radio, optical, or other electromagnetic means, and includes all facilities, equipment, supplies, and services for such transmission, emission, or reception. Telecommunications services shall not include data processing services provided or authorized by the division of computer services, or the acquisition, retention or use of any data processing equipment authorized by the division of computer services.

Attachment 1

Telecommunications Defined.

Telecommunications may be defined as any use of the electromagnetic spectrum which has as its purpose the transmission (includes radiation by broadcasting or radionetting) of information or intelligence from one place to another.

The field of telecommunications services and facilities covers the entire range of applications from the simplest local wire intercom or telephone installation thru optical fiber techniques, and, local radio paging systems thru microwave and satellite communications techniques.

Simply stated, telecommunications covers all services and facilities used to transmit, receive, switch, or otherwise process voice, facsimile, teletype, telemetry, data, or television signals, whether by wire, radio (includes microwave and satellites) or light wave (fiber optics).

The System Nature of the Telecommunications Function.

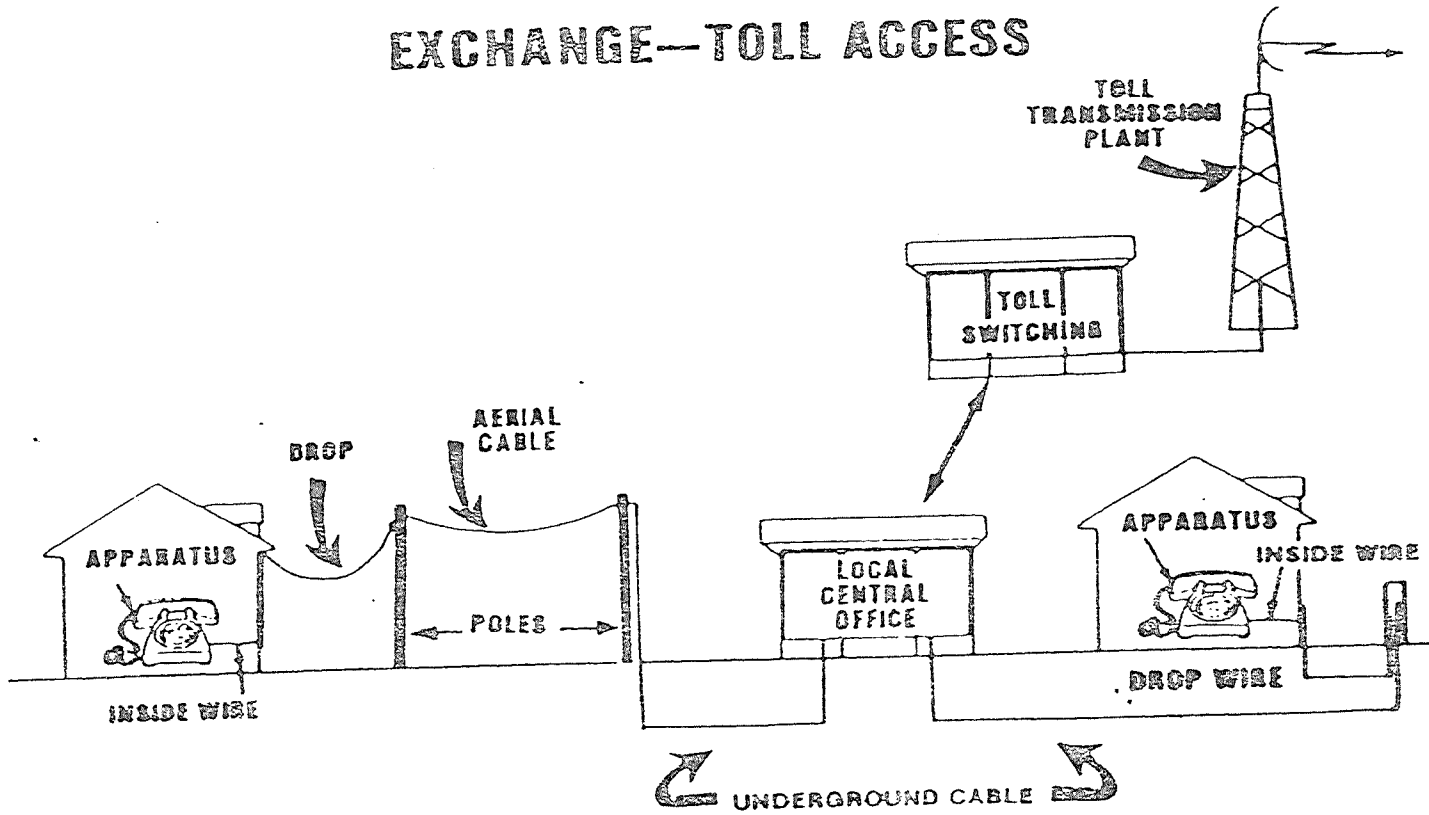
Traditionally, communications services are thought of as either local or long distance. This is due not only to evolutionary processes but also to differing technologies, equipment, and managerial and operational concepts.

Communications systems evolved from isolated local area facilities into an integrated network and system when inter-area/inter-city communications facilities were made possible by advancing technologies. The elements of a local system are terminal instruments for generating and receiving communications signals (Customer Premise Equipment - CPE), a local wire transmission facility, and a local area switch which permits interconnection of local users. To this are added specialized long distance switches and transmission facilities, such as multiplexed copper cable, co-axial cable, wideband microwave radio and satellite systems, and fiber optical cable employing lightwave transmission techniques.

Telecommunications systems by their nature are "area" type systems, i.e. they extend over varying quantities of terrain from a suite of offices to citywide, statewide, countrywide, and worldwide. Every communications facility consists of two ends and a middle, and it does not function or fulfill its purpose if one of these elements does not exist or work. A telephone instrument that is not connected by wires and a functional switch to another telephone instrument, is just a good paper weight. This is in contrast to a spot system, which is wholly self contained and self sufficient without requiring some external interconnection. A copying machine is a good example, as is a stand-alone non-communicating word processor, or even a computer which, even if it occupies a whole floor or a whole building, can accomplish its purpose even if no communications facilities are employed with it.

It is apparent then, that a telecommunications system must be viewed as an end to end integrated entity. In our nationwide and worldwide networks, operations and interrelationships are governed by regulatory bodies and intergovernmental agreements. Technical interfaces and operational procedures are governed by very specific and agreed on standards and protocols. Each separately owned segment of the system is centrally managed and controlled within its geographical boundaries, and central management is held responsible to all users for the quality, availability, and reliability of its services. So too, for a state owned/leased private system. It becomes a part of the worldwide network and must be compatible and in harmony with it in all respects.

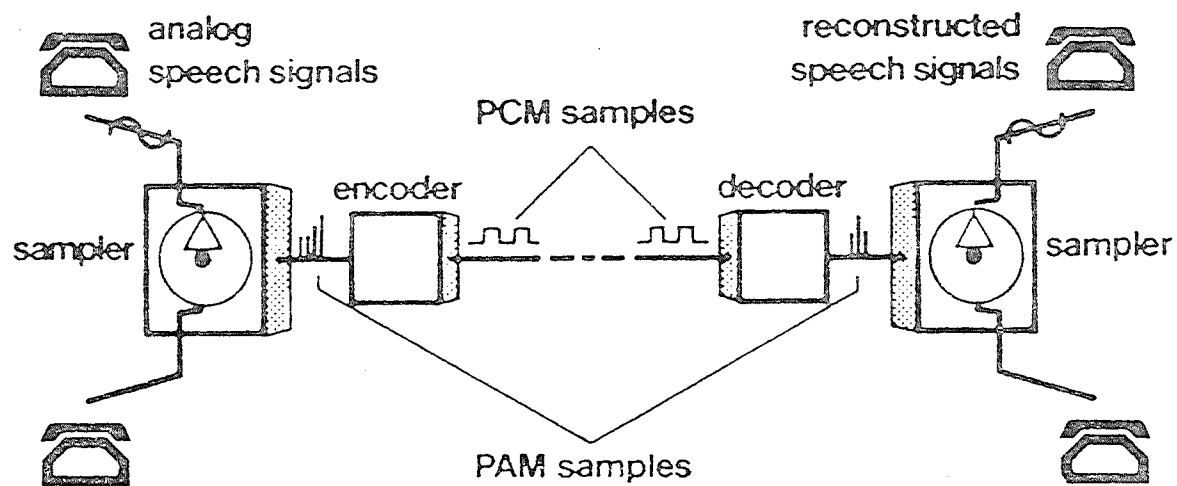
EXCHANGE—TOLL ACCESS



Reasons for Considering Adopting Digital Technology.

AT&T is advising all independents to adopt digital technology, in transmission systems, Central Offices, and PBX's. T-1 carrier is an essential component of a digital network. Availability of integrated voice/data service by 1983 and 1984 is foreseen and it was noted that this involves end-to-end connectivity, through adoption of T-1 technology which can handle digital transmissions at the rate of 56 Kbs. In the State of Kansas, according to Western Electric, more than 2/3 of the interoffice and intercity transmission facilities are T-1 digital. The introduction of digital technology in the PBX field heralds the demise of the analog PBX. In the coming few years digital PBX's will account for 99% of annual sales volume. The reasons for going digital are:

1. Lower equipment costs.
2. Smaller space requirements.
3. Higher reliability.
4. Lower maintenance costs.
5. Lower installation costs.
6. Superior off-premises capabilities.
7. Equipment additions and enhancements which are easier to accomplish while promising to be less expensive.
8. Mass production of digital PBX's will stimulate price declines.
9. Analog prices will consequently climb due to reduced volume.
10. The increasingly digitalized public switched network will erode the need for analog signals.

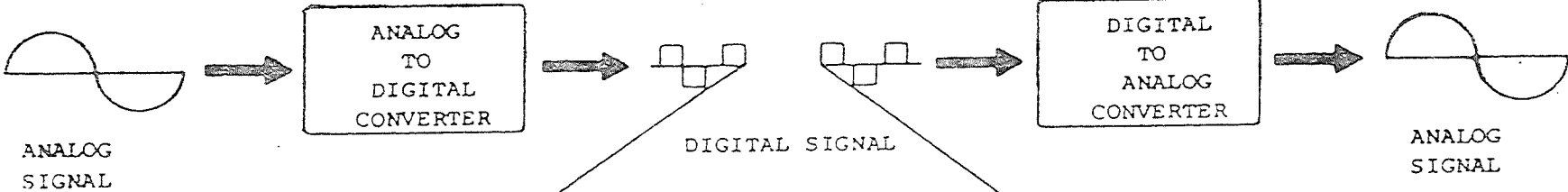


Basic PCM System

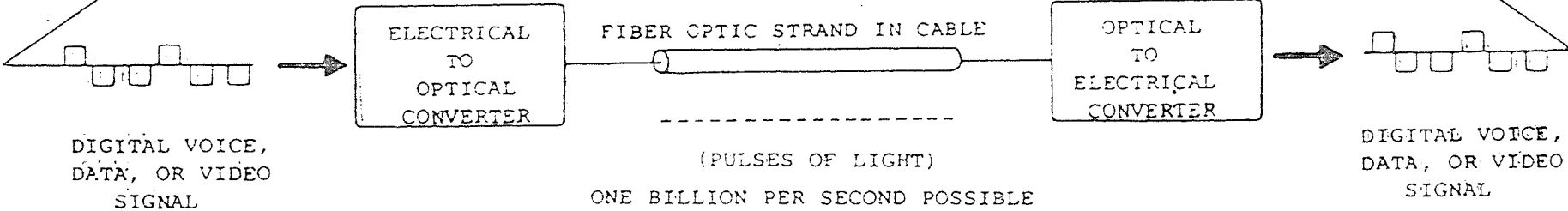
FIG. 1.1

Attachment 2

TECHNOLOGY REVIEW

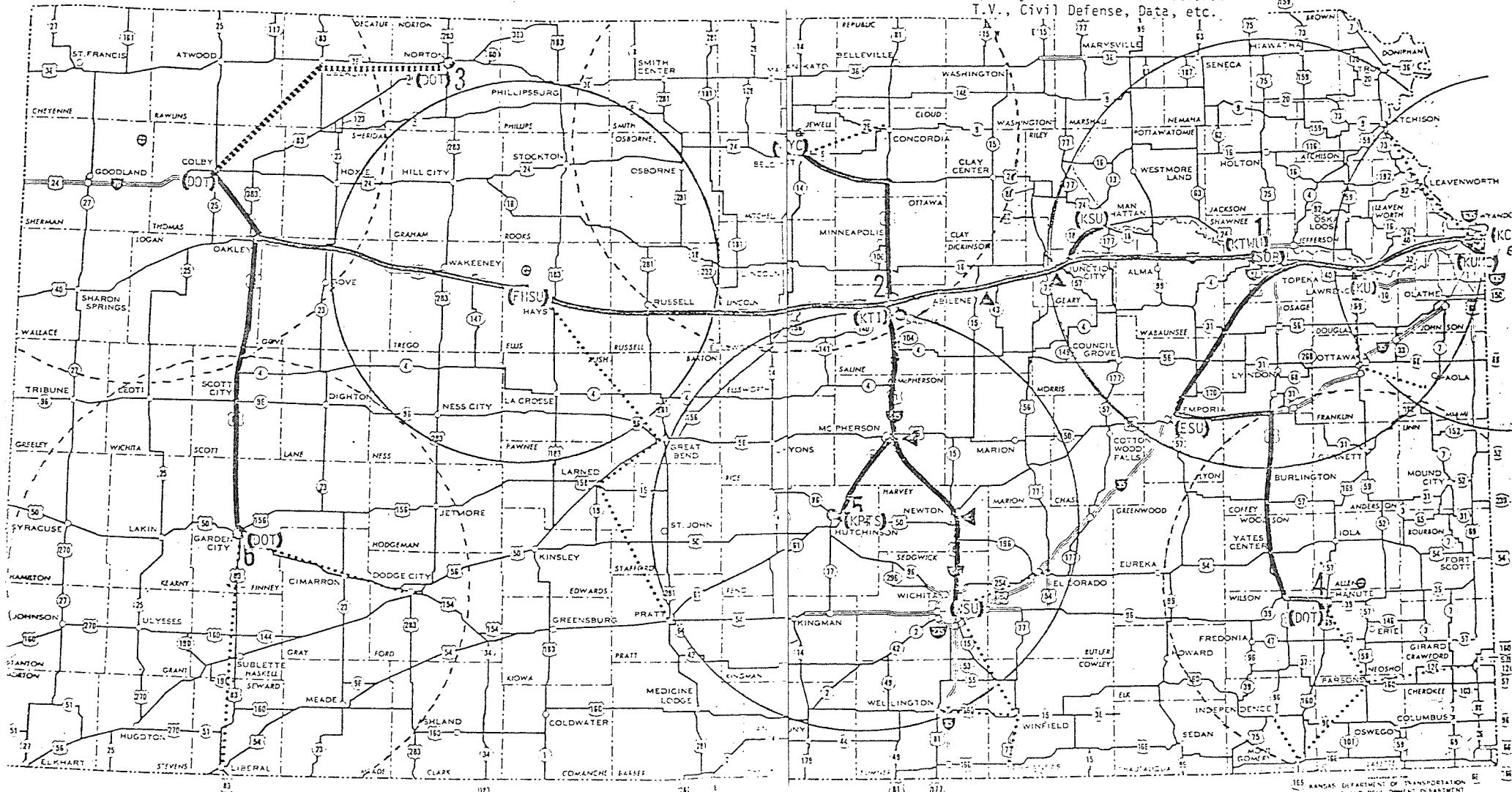


DIGITAL TRANSMISSION



KANSAS

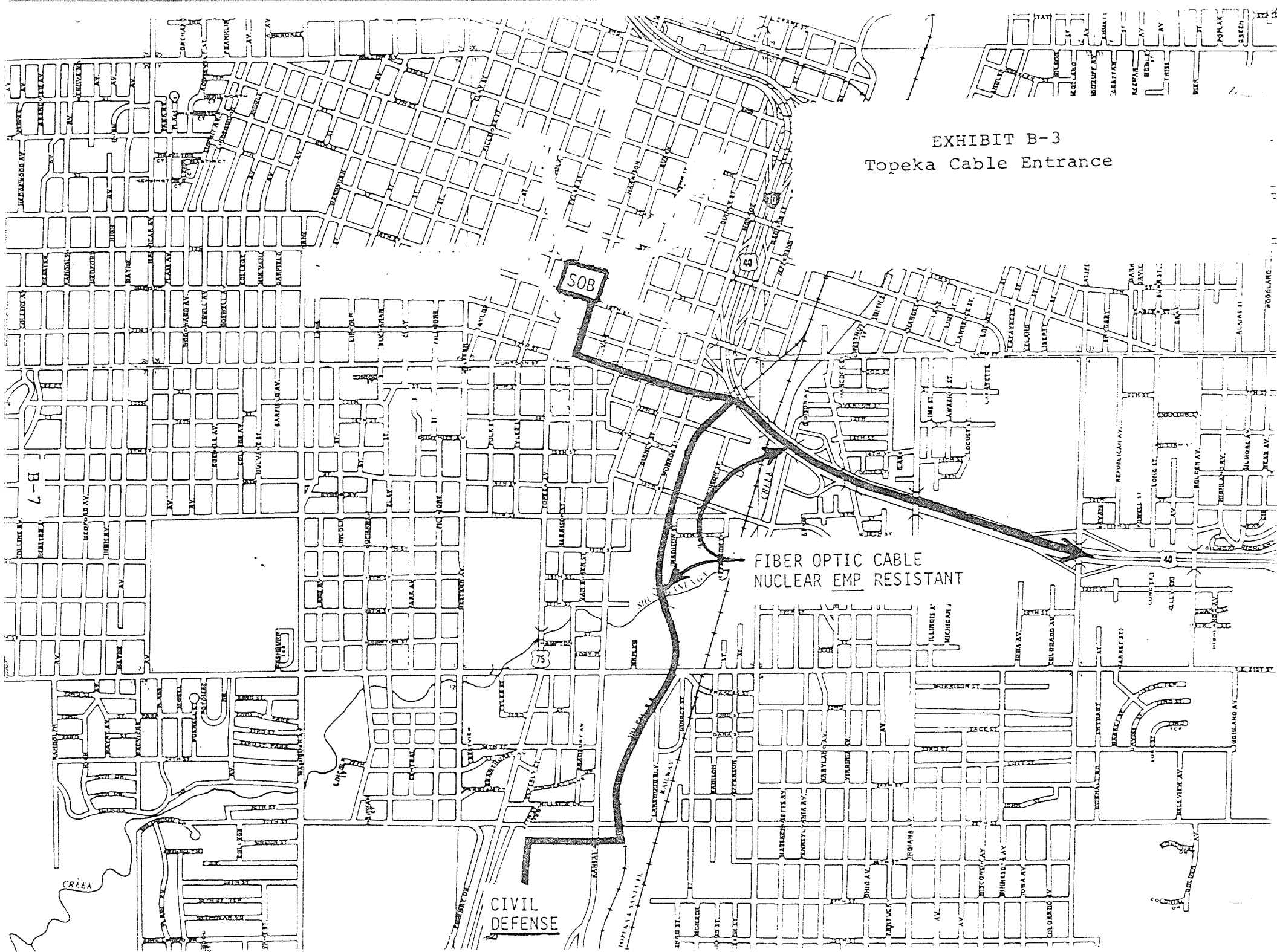
Capacity for future Instructional
T.V., Civil Defense, Data, etc.



- LIGHTHAUSE (Fiber Optics)
- MICROWAVE (2GHz existing)
- LEASED MESSAGE (Tel. Co.)
- ▲ CITY ENTRANCE LINKS (1 hop 18 Ghz Microwave)

B-2

EXHIBIT B-3
Topeka Cable Entrance



FIBER OPTIC CABLE
NUCLEAR EMP RESISTANT

SOB

CIVIL DEFENSE

B-7

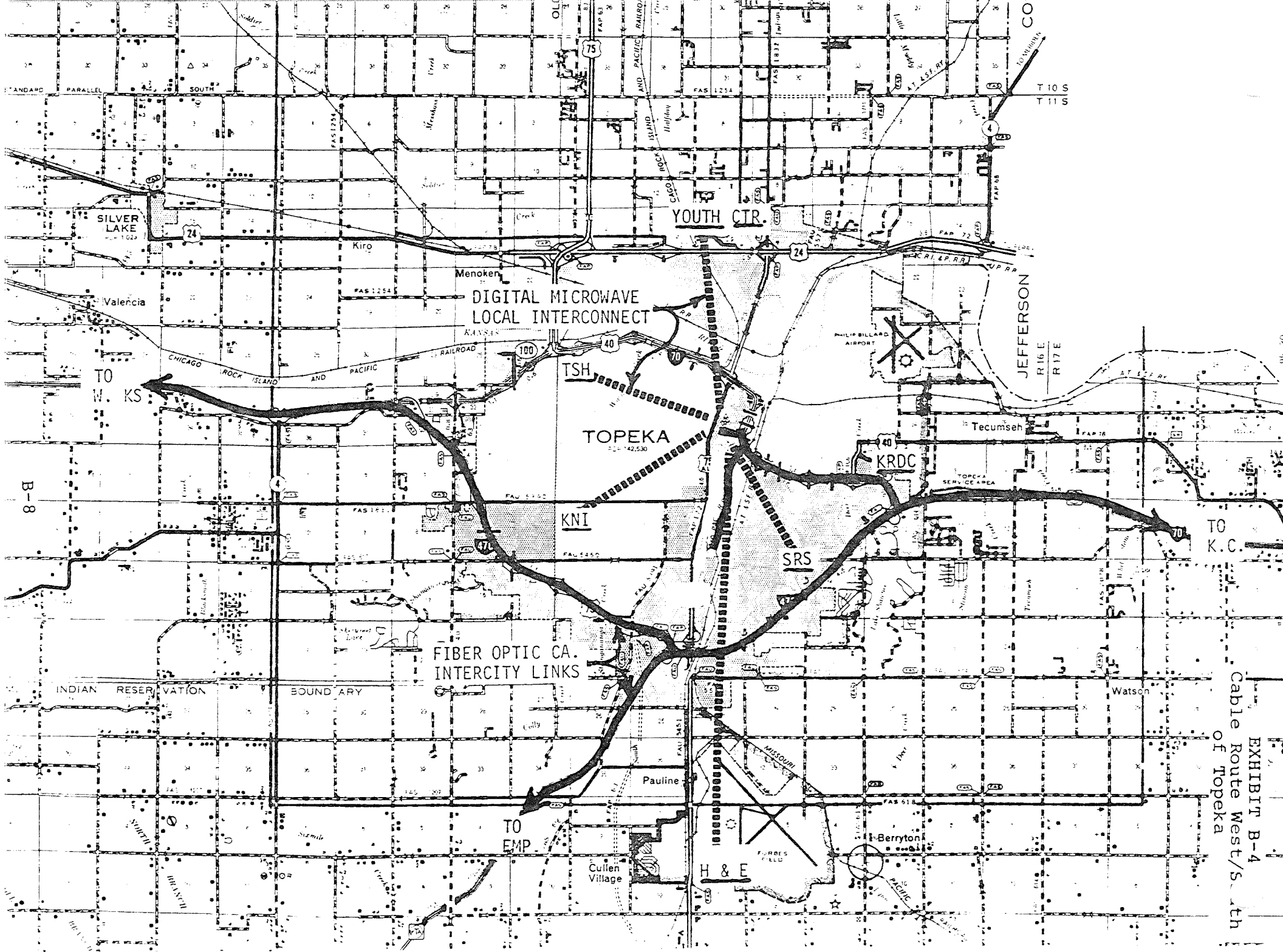
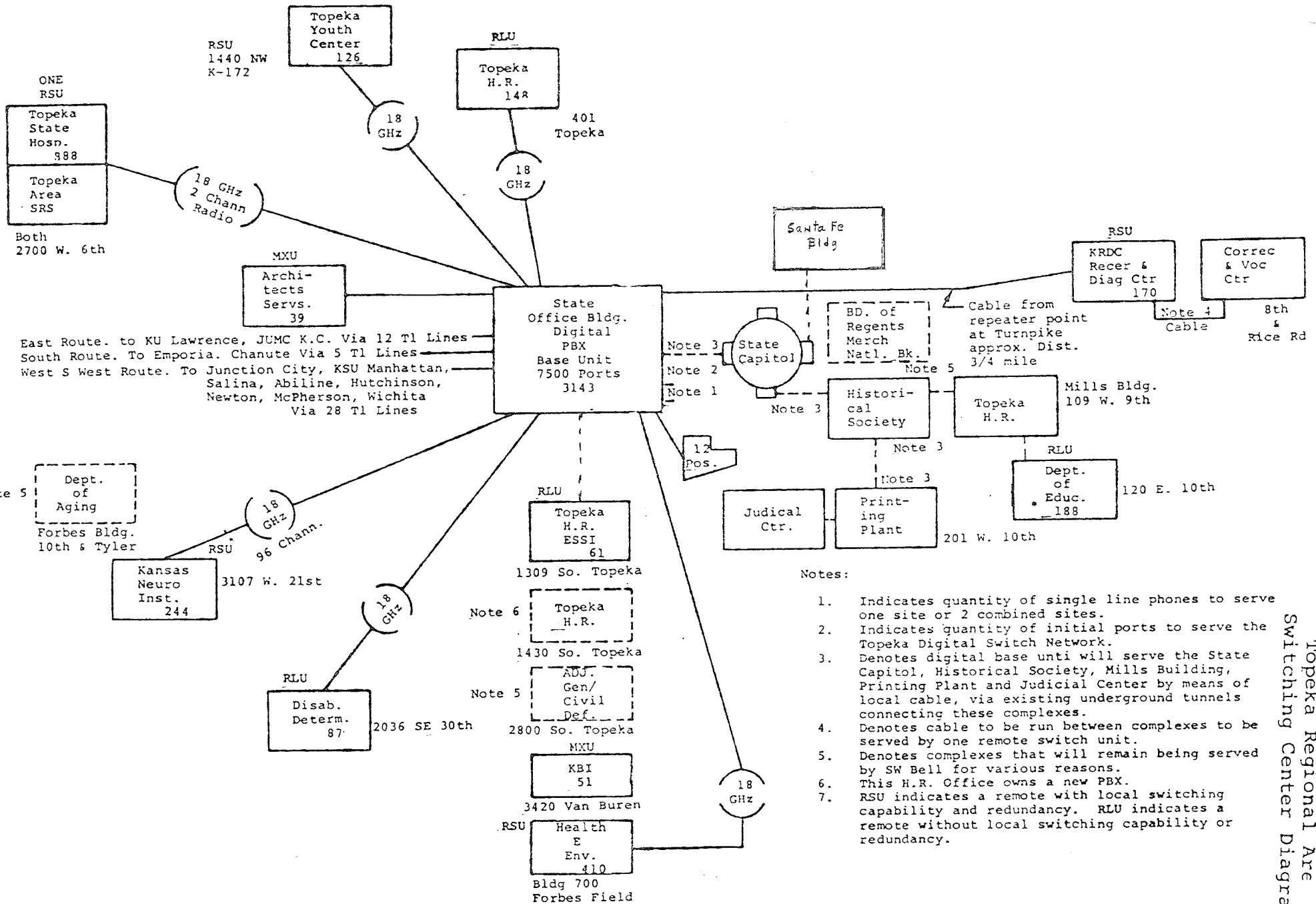


EXHIBIT B-4
 Cable Route West/S. th
 of Topeka



Notes:

1. Indicates quantity of single line phones to serve one site or 2 combined sites.
2. Indicates quantity of initial ports to serve the Topeka Digital Switch Network.
3. Denotes digital base unit will serve the State Capitol, Historical Society, Mills Building, Printing Plant and Judicial Center by means of local cable, via existing underground tunnels connecting these complexes.
4. Denotes cable to be run between complexes to be served by one remote switch unit.
5. Denotes complexes that will remain being served by SW Bell for various reasons.
6. This H.R. Office owns a new PBX.
7. RSU indicates a remote with local switching capability and redundancy. RLU indicates a remote without local switching capability or redundancy.

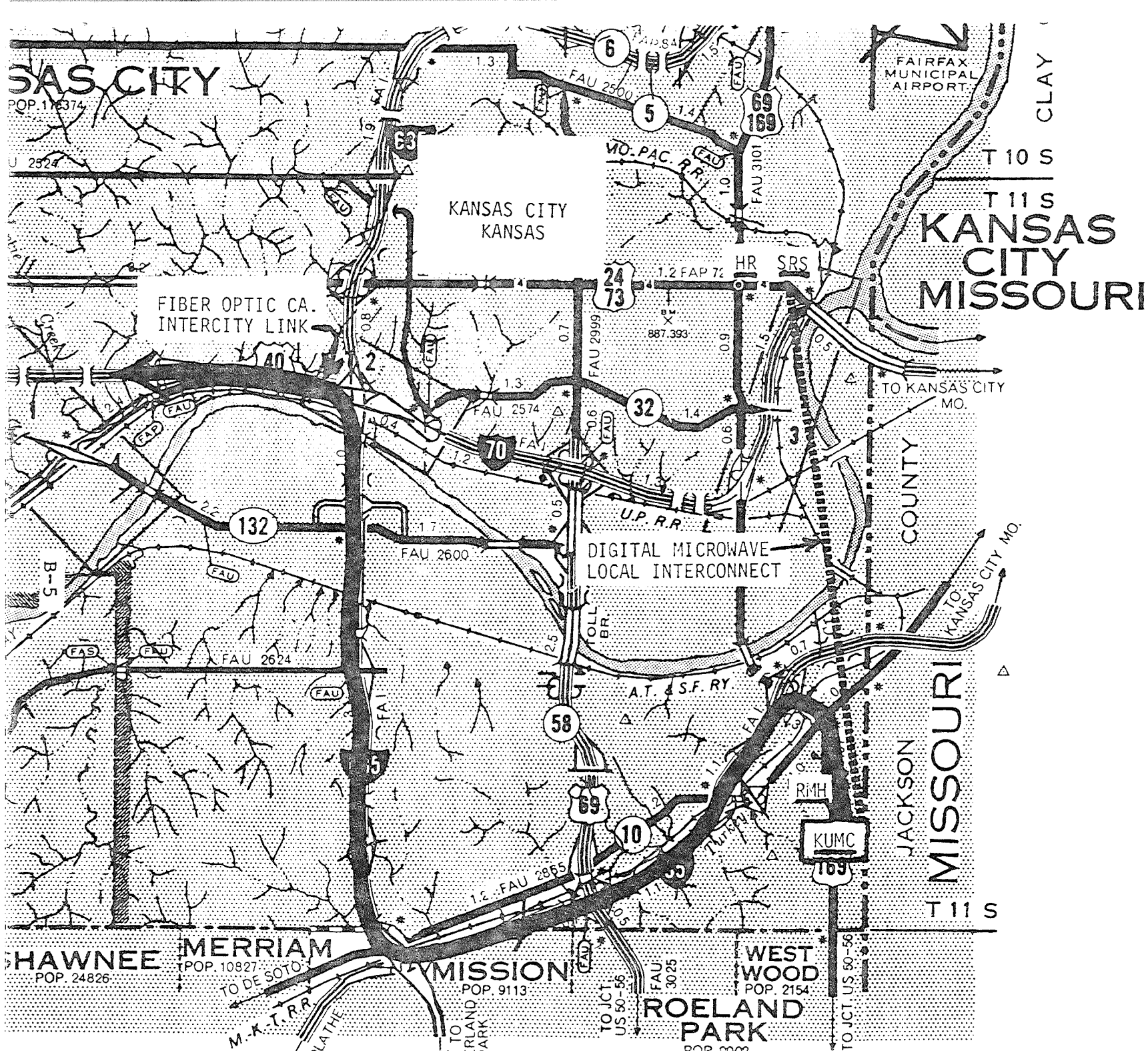
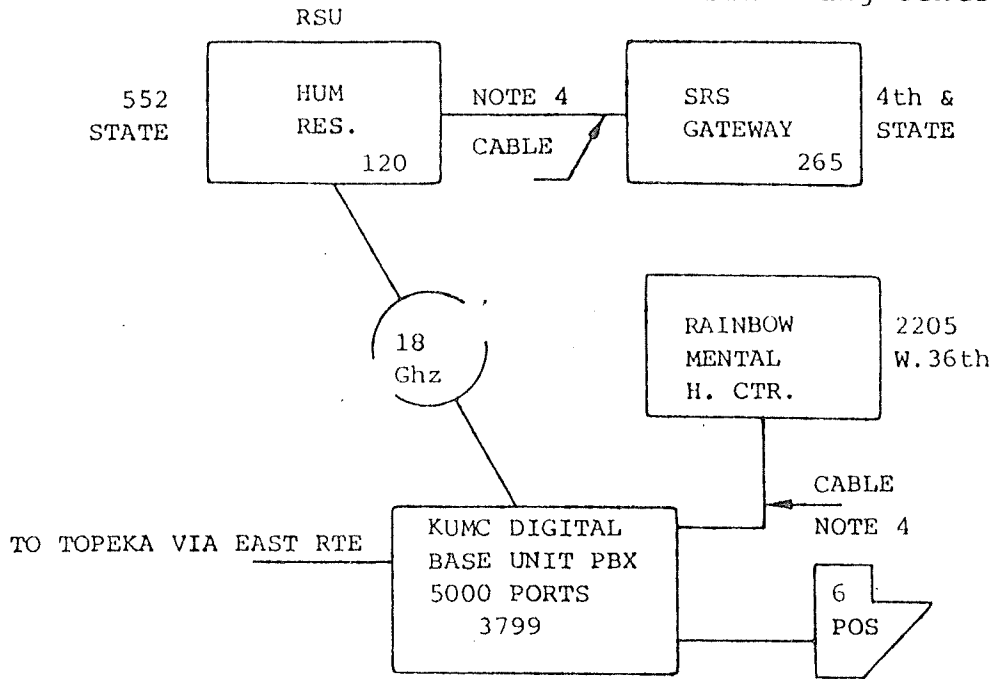


EXHIBIT B-2
 Kansas City Cable Entrance

EXHIBIT C-7
 Kansas City Regional Area
 Switching Center Diagram



NOTES

1. Size indicates the number of single line instruments used initially. Base unit shows total ports.
2. RSU indicates remote with local switching capability and redundancy.
3. RLU indicates remote without local switching capability CR redundancy.
4. Denotes cable to be run between complexes to be served by one remote switching unit.

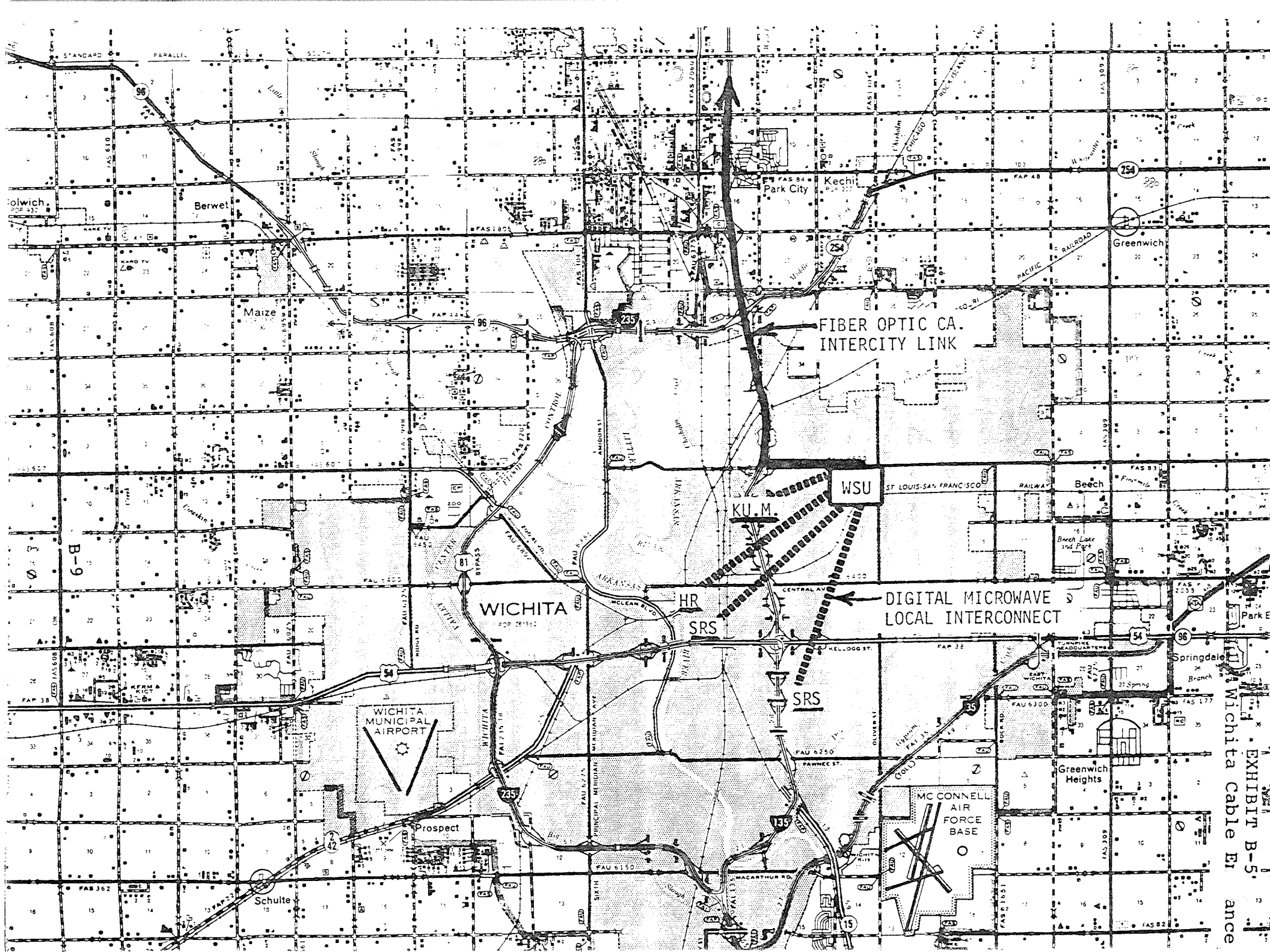
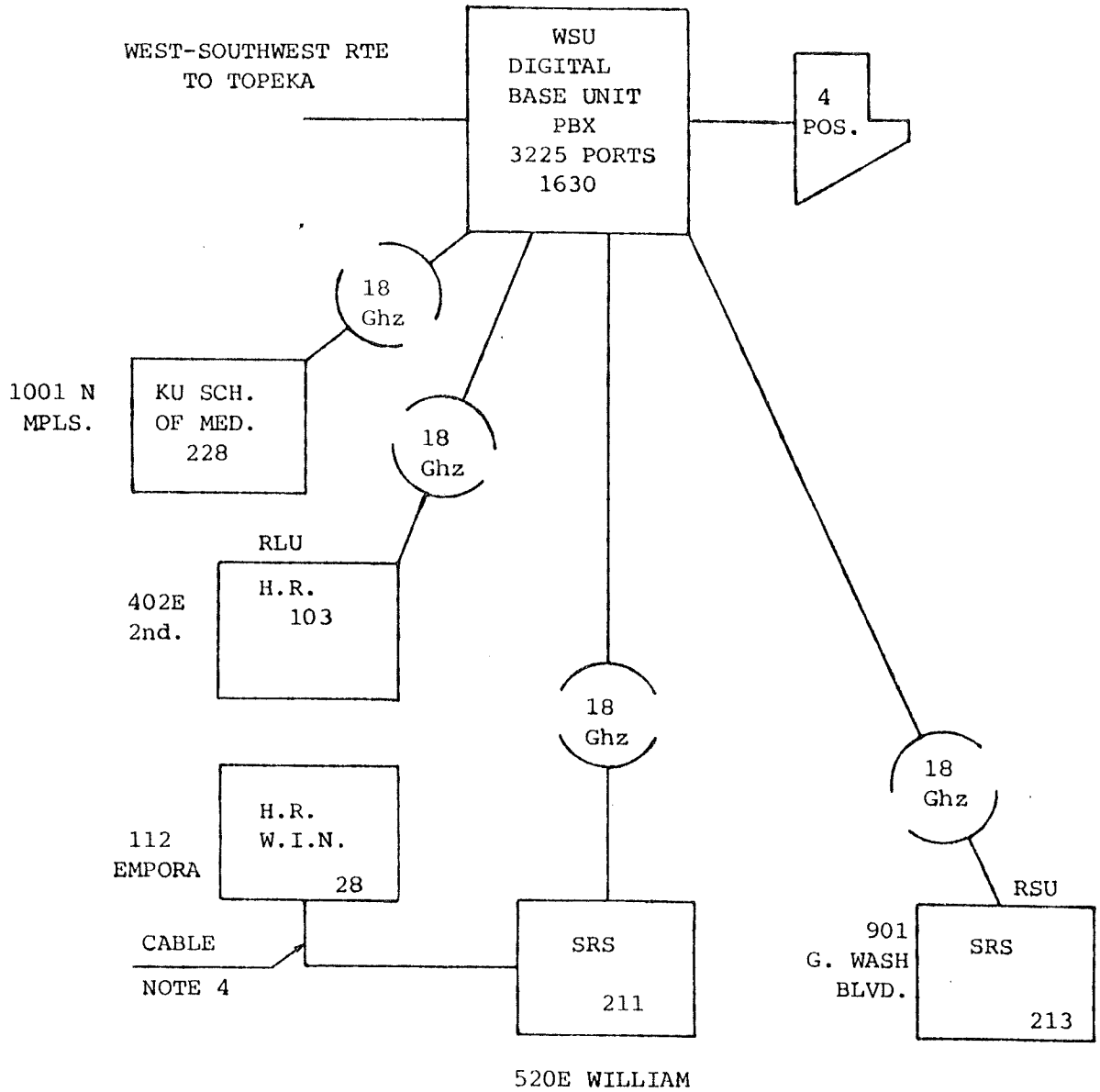


EXHIBIT B-5
Wichita Cable En
ance

EXHIBIT C-11
 Wichita Regional Area
 Switching Center Diagram



NOTES:

1. Size indicates the number of single line instruments used initially. Base unit shows total ports.
2. RSU indicates remote with local switching capability or redundancy.
3. RLU indicates remote without local switching capability or redundancy.
4. Denotes cable to be run between complexes to be served by one remote switching unit.