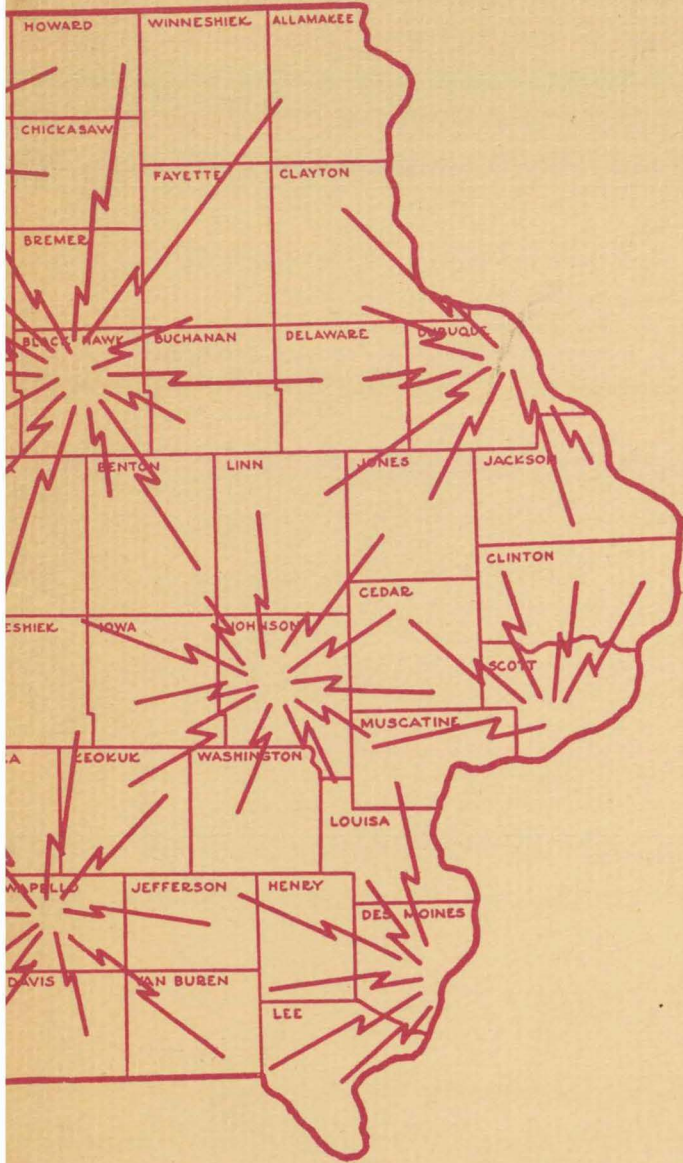


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Educational Television

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Educational Television in Iowa

A Report of Plans for the Future of Educational Television in Iowa developed by the Iowa Joint Committee on Educational Television and presented December 16, 1952, at Governor Beardsley's Educational Television Conference in Des Moines

What the invention of printing meant in the Middle Ages, the invention of television can mean to education in the Twentieth Century.

F O R E W O R D

Recognizing the importance of educational television to the present and future welfare of Iowa's citizens, Governor William S. Beardsley has called a conference of leading Iowans on December 16, 1952, in Des Moines to discuss this subject.

Governor Beardsley said in his letter of invitation for the conference, "The official leadership of all state-wide organizations devoted to the promotion of education are being invited to consider the future of television and its effects upon the cultural and educational values offered the citizens of the State of Iowa."

This book was prepared by the Iowa Joint Committee on Educational Television as a basis for discussions at the December 16 meeting.

INTRODUCTION

Chairman Paul A. Walker of the Federal Communications Commission recently said of television:

"What the invention of printing meant in the Middle Ages, the invention of television can mean to education in the Twentieth Century."

Iowa is now the only state in the Union which owns and operates a television station established to serve educational and public service needs of its people. Whether educational and public service television is ever to extend in Iowa beyond the limits of WOI-TV's signal will be decided by the people of Iowa and their representatives sometime between now and July 1, 1953.

Last April the Federal Communications Commission, in unprecedented action, reserved a portion of the very limited broadcasting spectrum exclusively for the use of educational, non-commercial television stations. Iowa was assigned its share of the 242 television channels available for education. The FCC's reservation of channels was made for one year.

On July 1, 1953, all channels in the United States now reserved for educational use will be subject to application by anyone interested in establishing a television station, whether the applicant's desire is to operate commercially or non-commercially. Unless the educational interests of the nation are protected by positive steps toward utilizing the channels reserved for education, these channels are likely to be lost to education forever.

Therefore, it is of utmost urgency and importance that Iowa study the possibilities of establishing additional educational television services now. A decision must be made before July 1. It should be a decision of which all Iowans will be proud, for what Iowa does about educational television between now and July will determine what Iowa can do about it in the decades to come.

This book has but one purpose: That of providing educators, public officials and other public-minded citizens of Iowa information on which to make a decision about the future of educational television in Iowa.

It is paramount that a wise decision be made. In the short time which is available, Iowans must give educational television a thorough examination and come to a conclusion about its future in Iowa.

A decision by default is no decision at all. If the result is a tragic loss for the people of Iowa, the condemnation is upon those who failed to act.

This book will help the reader make a wise decision.

The Iowa Joint Committee
on Educational Television

THE IOWA JOINT COMMITTEE ON EDUCATIONAL TELEVISION

Shortly after announcement of the Federal Communications Commission's decision to reserve 242 television channels for educational use, speculation about educational television in Iowa was translated into positive activity. Simultaneously the State Department of Public Instruction and the State Board of Education initiated studies.

The State Department of Public Instruction, under Miss Jessie Parker's direction, was authorized by Governor Beardsley to explore the need for educational television service in the public schools. At the same time the State Board of Education asked its Interinstitutional Committee on Educational Coordination to study the entire range of educational TV potential in Iowa---the need for it, its utility to the public schools, to the colleges and universities, and its potential service to the general public. In addition, the Board asked its committee to report on the feasibility of establishing state-wide educational television service.

When it became apparent that the Department of Public Instruction and the Board of Education were conducting parallel studies, the suggestion was made that these two agencies pool their resources. Such a pooling was desirable inasmuch as the facilities of each agency would inevitably be wedded should state-wide educational television service ever be established. Representatives of the Board and the Department met in Des Moines on September 17 to merge their activities in this area.

Their consultation resulted in the Iowa Joint Committee on Educational Television (IJCET).

IJCET is an advisory committee set up to serve its parent agencies. The committee is composed of the following individuals:

Mr. Harry Hagemann, Chairman, Member of the Board of Education
Provost Harvey Davis, State University of Iowa
Dean M. J. Nelson, Iowa State Teachers College
Mr. Richard B. Hull, Iowa State College
Mr. Paul Johnston, Dept. of Public Instruction
Mr. Virgil Lagomarcino, Dept. of Public Instruction
Mr. Arthur Carpenter, Dept. of Public Instruction
Mr. I. N. Seibert, Dept. of Public Instruction

Mr. David A. Dancer, Secretary of the Board of Education, is secretary of IJCET and ex-officio member of the committee.

Mr. Merritt C. Ludwig, Iowa State College; and Prof. J. Leonard Davies, State University of Iowa; are Executive Assistants to the Committee.

Since its first meeting, IJCET has devoted its study to the following questions:

1. What are the educational television services to which every citizen of Iowa is entitled?
2. How can the vast educational resources of Iowa's schools, colleges, and universities be brought into every Iowa home with economy, efficiency, and effectiveness?
3. By what means can a state-wide educational television service be established, operated and financed?

The task of answering these questions was divided among several IJCET sub-committees; special technical assistance was given by an outstanding Washington firm of consulting engineers.

In its work, IJCET was guided by these fundamental propositions which serve as the basis for everything which follows in this report:

1. If educational television is a service the people of Iowa need and want, it should be made available to all of Iowa's citizens.
2. Educational television service to all of Iowa is a public concern just as the public schools are and should be financed publicly.
3. A system of educational television stations in Iowa should be operated on a non-commercial basis, depending for its operating expenses upon public funds.
4. Iowa's present television facility, WOI-TV should become an integral part of any future educational television system in Iowa.
5. A state-wide educational television system should make fullest use of resources already at the state's disposal, e.g. the state-owned institutions of higher education, state-owned physical plant and land, and all state institutions and agencies.

With these propositions as given, IJCET has made a thorough exploration of the programming, engineering and financial aspects of state-wide educational television service. Out of its study has come this report.

It will be IJCET's function between now and July 1 to make available on the broadest possible scale all information pertinent to the decision Iowa must make.

IJCET is prepared to cooperate with any individuals or groups in Iowa who seek additional information.

All communications should be addressed to Iowa Joint Committee on Educational Television, State Office Building, Des Moines.

TELEVISION AND THE FEDERAL COMMUNICATIONS COMMISSION

Millions of Americans as yet not served by television stations are clamoring for the services of this most magic of all media of communication. Hundreds of potential television station operators are contending for licenses to go on the air. Yet with all of their resources and with all the advanced television technology in America, only a relatively small number of them will ever get this opportunity. Why are the people and potential TV station operators faced with this problem?

The answer lies in the nature of the broadcasting spectrum which places a practical limit upon the kind and number of broadcasting stations which can operate simultaneously without interfering with each other.

It is no more possible to have unregulated broadcasting traffic than it is to have unregulated automobile traffic. In the early days of radio hundreds of broadcasters built radio transmitters, selected a wave length, and broadcast with as much power as they could muster. The result was broadcasting bedlam! Too many people were using the same wave lengths; no one could get consistently good reception.

In America, the broadcasting spectrum was conceived as an immensely valuable natural resource and as the property of all of the people. To assure constructive use of this new-found boon to society, our government and other governments all over the world have assumed the responsibility for regulating use of the spectrum.

In America use of the broadcasting spectrum is regulated by the Federal Communications Commission (FCC). It is the FCC's job to assign

portions of the spectrum to many forms of broadcasting---television, AM (standard) radio, FM radio, police, aircraft and amateur radio, even taxicab radio. Assignment is made in such a way as to permit the maximum number of broadcasters to use the spectrum without interfering with each other's transmissions.

Just as the total broadcasting spectrum is limited, so also is that portion of the spectrum used for television. The nature of television presents an additional problem. Individual television stations require more "space" in the spectrum than any other form of broadcasting. The electronic greediness of TV, therefore, limits even more the number of TV stations which can go on the air.

Until last July the number of spaces in the broadcasting spectrum (channels) in which television stations could operate was limited to twelve which fall in the very high frequency portion of the spectrum. These channels were given the numbers 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13. All but one of the TV stations in America now operate on one of these very high frequency (VHF) channels. Except for channels 4 and 5, no other adjacent channels can be used in the same geographic area at the same time. This means the maximum number of TV stations operating on VHF channels in a single area is seven, using channels 2, 4, 5, 7, 9, 11, and 13. (In New York and Los Angeles all of these channels are now occupied and potential station operators are seeking additional channels in these cities.)

If television transmission were to be limited to channels in the VHF range, much of the nation would be forever denied television service. Recognizing the need for additional "space" for new stations which could totally bring TV to the entire nation, the FCC last July

assigned an additional portion of the broadcasting spectrum for use by television stations. This portion is known as the ultra high frequency range (UHF).

The "space" in this range provides for 70 more channels on which TV stations can operate without interfering with each other.

Engineeringwise, it is now possible to have more than 2,000 television stations on the air in America, and if properly located these 2,000 stations can bring TV to almost every American home.

Early doubts of the utility of the UHF range for television stations have been dispelled by the establishment of an operating UHF station in Portland, Oregon. Now there are many applicants in all parts of the nation seeking licenses to operate UHF TV stations and the emergence of as many UHF as VHF stations in America seems certain.

The FCC's action in opening the UHF portion of the spectrum to television was reported in its "Sixth Report and Order." In this same report, the FCC announced its total plan for television development in the United States. The report assigned specific VHF and UHF channels to specific communities. For example, it assigned VHF channels 8, *11, and 13, and UHF channels 17 and 23 to Des Moines. (See below for explanation of asterisk.)

Several factors controlled the kind and number of channels assigned to individual communities. A major factor was population concentration. The Commission generally assigned channels in proportion to community size. The assignment of channels to a particular community, however, could not be made without reference to other communities within 150 to 200 miles since the overlapping of signals from stations using the same

channel would cause interference in the intermediate territory. For example, channel 8 assigned to Des Moines could not also be assigned to Ottumwa or Fort Dodge, or Atlantic or to a city near the Iowa-Missouri border.

The FCC's task of assigning channels to communities was exceedingly difficult and the assignment action was unprecedented in American broadcasting.

Equally unprecedented was the FCC's reservation of certain channels in communities exclusively for the use of non-commercial, educational television stations. The asterisk which appears before channel 11 (above) in the Des Moines assignment indicates that channel has been reserved for educational non-commercial use.

While the FCC was preparing its Sixth Order and Report assigning specific VHF and UHF channels to specific American communities, a tremendous movement in behalf of educational television was organized. Hundreds of educators and leaders of public schools, colleges, universities and municipalities asked the FCC to make special provision for educational TV channels in its report. These educational interests combined forces in an organization sponsored by the American Council on Education and other similar groups. Their effort was focused by the national Joint Committee on Educational Television, a group comparable to IJCET but functioning on a national scale.

So convinced was the FCC of the importance of using television for educational purposes in America that it reserved exclusively for non-commercial educational use approximately one-tenth of all possible television station channels in the nation.

Of course, educational interests could (and still can) make application for regular TV channels which will be granted for commercial operation. If such a channel is granted to an educational applicant, the channel may be used either commercially or non-commercially. In reserving non-commercial channels for education, the FCC recognized two additional factors: (1) that most educational institutions have no desire to operate commercial television stations, and (2) that schools and colleges, depending upon public support rather than corporate backing, would require more time to muster funds and facilities for a television station than would commercial interests. Consequently, if channels were not reserved for educational institutions, many of them would never have the opportunity to go into television, the channels assigned to their communities being taken up by faster-moving commercial interests.

A total of 242 television channels were reserved for non-commercial educational use.

Unfortunately, the FCC found it necessary to limit the period in which channels would be reserved for educational use. The channel reservations for education, by order of the FCC, cannot be challenged or applied for by any but educational interests until July 1, 1953. After July anyone may petition the FCC to change its rules and grant commercial licenses on channels previously reserved exclusively for educational use.

No one knows whether the FCC will grant such petitions. Pronouncements by FCC Chairman Paul Walker and other members of the Commission indicate the pressure is already great to "remove the asterisks" and

open the way for commercial applicants' use of channels now reserved for education. Unless the FCC has positive evidence of educators' intentions to use the reserved channels, it has no alternative but to drop the reservations. To hold channels back for possible educational use in the future would, in many cases, deprive the public of television service to which it is entitled now. Considered in this light, the FCC's one-year reservation period is perhaps all that educational interests could justifiably expect.

The FCC assigned to Iowa a total of 13 VHF television channels (including the two VHF Channels now being operated at Ames and Davenport), and 46 UHF channels, none of which are yet operated. Two of Iowa's 13 VHF channels have been reserved for non-commercial, educational use; they are located at Des Moines and Iowa City. Four UHF channels have been reserved in Iowa and are located at Cedar Rapids, Davenport-Rock Island-Moline, Sioux City, and Waterloo.

If all of these channels, plus the channel now used by Iowa State College, were to be operated as educational, non-commercial stations, a great portion of the state lying in the western half of Iowa would not be served by stations operated exclusively for educational and public service purposes. To provide for such contingencies, the FCC's Sixth Report and Order provided for additional educational stations to be operated on "drop in" channels. This means Iowa could undoubtedly obtain additional channels for educational use to serve those portions of the state which would not be covered by stations located at the cities mentioned above. The FCC would "drop in" additional channels at locations where they would not cause interference with already established stations or those anticipated in the FCC's table of channel assignments.

In summary, the FCC has made the way clear for the establishment of broad educational television services in Iowa. But the opportunity in which to act to this end is limited to the time between now and July 1, 1953. If Iowans want a state-wide educational television service, they must act rapidly or likely lose forever the opportunity which is theirs now.

EDUCATIONAL TV IN THE U. S. TO DATE

The FCC reserved television channels for a one-year period and nearly half of that year has now passed. As the FCC anticipated potential educational broadcasters have been unable to move as rapidly as they would like toward using these channels. Notwithstanding, the first half of education's year of opportunity in television shows great accomplishment and the promise of accelerated activity in the second half.

Actually, the most important developments in educational television are not revealed in official applications for channels. Members of the FCC, particularly its Chairman Paul A. Walker, have repeatedly encouraged the establishment of state-wide educational television systems. And several states have already taken great strides to this end.

In our neighboring states of Minnesota and Wisconsin complete plans for state-wide educational TV networks have been completed and will be presented to the state legislatures next month.

Minnesota plans a network of 10 stations with a central station at Minneapolis-St. Paul. Wisconsin plans 12 stations with a central station at Madison. In both states sufficient stations are planned to afford complete state-wide coverage.

Wisconsin's educational television plans were stimulated by the spontaneous emergence of the Wisconsin Citizens Committee for Educational Television. This committee is composed of representatives of every major agricultural, labor, business and educational interest

in Wisconsin and the committee represents hundreds of thousands of Wisconsin's citizenry. The WCET was a grass roots movement in Wisconsin. Its activity will undoubtedly result in substantial legislative support for educational television.

Governor Beardsley has called a meeting of Iowa leaders to discuss educational television's future in Iowa. Governor Dewey has appointed a temporary commission to plan a state-wide educational TV system in New York. Governor Warren has called a meeting of 1,200 educators and leading layman to discuss state-wide educational television in California.

Chancellor Gordon Gray held a similar meeting in North Carolina a few weeks ago, and President Milton Eisenhower of Penn State has called a similar meeting between state leaders and members of the Pennsylvania Joint Committee on Educational Television.

Early this month representatives of 14 southern states met in Atlanta to consider establishment of a regional educational television system embracing every state south of the Mason-Dixon line.

There have been similar meetings in other states. Plans for state-wide educational television systems are underway in New York, California, Pennsylvania, Minnesota, Wisconsin, Oklahoma, New Jersey, Texas, Connecticut and Kansas. In addition plans for individual educational television stations are being made in Michigan, Indiana, Illinois, Missouri, Oregon, Tennessee, Ohio, Florida, Utah, Rhode Island, Massachusetts, and District of Columbia.

Most of the regional, state and individual educational TV facilities planned in these states will depend upon public funds for their

construction and operation, and all will rely heavily upon public educational institutions for their program resources.

As of this writing nine educational applicants have received licenses to construct and operate television stations. They are planning to construct stations in: Albany, N.Y.; Binghamton, N.Y.; Buffalo, N.Y.; Houston, Tex.; Los Angeles, Calif.; Manhattan, Kans.; New York, N.Y.; Rochester, N.Y.; and Syracuse, N.Y. (The New York cities included above will operate as part of a state-wide educational television system.)

Applications for educational television station licenses are pending for several educational organizations. Many other potential applicants are awaiting completion of plans before making formal license application.

At the present, and perhaps for as much as 6 more months, Iowa will continue to hold the distinction of having the only educationally owned and operated television station in the nation.

WOI-TV at Iowa State College has literally pioneered educational television for the rest of the nation; it has proved the value of educational TV service to the people of America. It has been a primary source of information, experience and know-how which will be applied in scores of educational TV stations plans all over the country. Iowa can be proud to have been the mecca of educational television.

Iowa's pre-eminence in this field will not remain unchallenged for long. Unless Iowa moves rapidly toward expansion of its educational television service, it will soon be eclipsed by activity in Minnesota, Wisconsin, and several other states. And if Iowa does not take steps toward additional TV development within the next six months, its opportunity may be lost forever. Like its neighbors throughout the nation, Iowa must make a decision soon.

EDUCATIONAL TELEVISION IN IOWA TO DATE

WOI-TV, the first and still the only educationally owned and operated television station in the nation, has been on the air since February, 1950. In original plans WOI-TV was to be exclusively an educational public service station operated on a non-commercial basis. After WOI-TV was granted a license but before it actually began regular telecasting service, the FCC imposed the now famous "freeze" on television station development. At the time of the freeze in September of 1948 there were 107 television stations either on the air or authorized to go on the air. No more stations could be built until the freeze was over.

The freeze placed WOI-TV in the unique position of being the only television station offering service in central Iowa; the prospect for additional stations in central Iowa was dim. No one could predict how long the freeze would continue. It was certain to be months, and as it developed the freeze was actually for a period of nearly four years. Moreover, the lifting of the freeze did not guarantee immediate additional central Iowa television service. (Contesting applications for TV channels in Des Moines and other communities have already led to delay of additional central Iowa TV service and may frustrate the desires of applicants and the public for sometime to come.)

Because of WOI-TV's unique position as the sole central Iowa TV station, and because of the justifiable desire of central Iowa people for a full budget of television service including both educational and entertainment programs, the State Board of Education authorized Iowa

State College to affiliate its station with the four great national television networks.

Through these affiliations and the revenue derived from them, WOI-TV has been able (1) to produce outstanding educational television programs serving a great variety of needs and interests of its central Iowa audience, (2) to satisfy the public demand for the best of commercial entertainment programs offered by the national networks, during the freeze and the post-freeze period in which WOI-TV is still the only central Iowa station, (3) to pay all of the costs of producing educational and public service programs on the station, and (4) to pay off the entire capital investment for station facilities.

Because of a combination of unusual circumstances, the State of Iowa now has in WOI-TV an extremely valuable television asset which cost it nothing.

The kinds of educational and public service programs WOI-TV has been able to develop for its quarter million audience are illustrated by the list of current locally produced programs at the end of this section.

The reader will note that the "Iowa TV Schoolltime" programs are jointly produced by the staff and facilities of the State University of Iowa, Iowa State Teachers College, the State Department of Public Instruction, and Iowa State College. In addition Iowa State Teachers College produces a regular weekly evening program on WOI-TV. Beginning with the first week in January, the University will present a major series of programs on WOI-TV.

Additional study of the WOI-TV local program listing will illustrate the manner in which the resources of Iowa State College and those of outstanding public service groups outside the College have been incorporated into outstanding educational programs.

The WOI-TV local program listing serves to indicate the breadth and utility of educational and public service television programs which can be produced by the cooperative effort of Iowa's colleges and university and other public service agencies. The full potential of educational program resources has hardly been scratched!

Perhaps more important, however, is the fact that only 20% of Iowa's citizens are now within range of these educational television services. The extension of these and other services to the other 80% depends upon what Iowa does about educational television between now and July 1.

PROGRAMS PRODUCED IN THE WOI-TV STUDIO, FALL, 1952

NEWS

MORNING NEWS--Monday through Saturday at sign-on. Five minutes of headlines with newscaster on camera. Special visual aids are used on the program.

NOON NEWS--Monday through Friday, 12:15 p.m. Fifteen minutes of up-to-the minute news with Dan Wozniak, TV News Editor, reporting. Show uses visual materials and films. Weather news is featured during the last few minutes of the program.

REPORTERS' WORLD DIGEST--Monday through Friday, 10:00 p.m. Features four newsmen dealing in detail with stories of local, state, national and international interest. Reporters follow through on stories of continuing interest on an individual basis. Fewer stories are used than during a regular newscast, but correlated events and background of the news are emphasized. The show also incorporates balops, films, and visual aids.

IOWA TV SCHOOLTIME

MUSIC TIME for elementary grades--Monday, 10:00 a.m. Half-hour program of music designed to supplement classroom teaching of subject. The teacher is provided by Iowa State Teachers College, which produces the program. Instrumental soloist and youngsters for classroom demonstration are selected by the station staff.

GUIDEPOSTS for high school students--Tuesday, 10:00 a.m. Half-hour program of dramatized guidance lessons. The show is produced by the State University of Iowa with WOI-TV providing the technical staff and facilities. Emphasis is placed upon how to make decisions, how to study, and similar situations.

WE'D LIKE TO KNOW, Guidance for high school students--Wednesday, 10:00 a.m. Series features guidance experts, a moderator, and teen-age participants. A question and answer session, the program aims at answering pertinent questions faced by teen-agers today. It is produced by WOI-TV in cooperation with the State Department of Public Instruction.

LET'S EXPLORE SCIENCE--Thursday, 10:00 a.m. Science for elementary grades. "Master" teachers use the classroom demonstration technique to bring science into the classrooms in the WOI-TV viewing area. Several youngsters take part in each program, asking questions, helping with the demonstrations, etc. Lessons in current series are centered around the aquarium. Produced in cooperation with the State Department of Public Instruction.

ADVENTURES IN ART for elementary grades--Friday, 10:00 a.m. Classroom demonstration conducted by art specialist from the University of Iowa. Youngsters create art objects under his direction in typical classroom situation. Exhibits and displays are also included. Produced in cooperation with the State Department of Public Instruction.

THIS IS IOWA STATE--Tuesday, 9:30 p.m. Quarter-hour of interviews, demonstrations and guest appearances which interpret the college departments and their activities to the TV audience. Flexible format allows student participation to a great extent. Produced in cooperation with all college departments.

YOUR HEALTH--Alternate Wednesdays, 9:00 p.m. Half-hour program of interest to all ages. Demonstrations, talks, and interviews are incorporated. Dramatic skits are also used for interpretation. Health habits, medical news, and similar items are selected for presentation by qualified physicians of the Iowa Medical Association. The Association is responsible for the subjects to be considered.

IOWA NEWS CONFERENCE--Alternate Wednesdays, 9:00 p.m. WOI-TV News Director selects topic of local and state interest, with an expert in the field asked to submit to questions by rotating panel of Iowa newsmen. Attempt is made to present both sides of controversial issues, and to give a large number of newsmen the opportunity to appear on TV and meet experts in various fields.

TC ON TV--Wednesday, 10:30 p.m. Weekly, quarter-hour show produced by Iowa State Teachers College for WOI-TV. Emphasis is upon interpretation of college activities and events. Technical personnel and facilities are provided by the station, with participants and subject matter supplied by the Teachers College.

COUNTY CLOSEUP--Wednesday, 10:30 p.m. Weekly half-hour show dealing specifically with county extension activities. Features personal appearances by county residents, musical numbers and

other talent from featured counties. County extension agents are production assistants on program. Produced in cooperation with the College Agricultural Extension Service.

FOCUS ON SPORTS--Thursday, 9:00 p.m. Weekly program features sports at Iowa State College, sports ethics, and related program areas. Special guests, demonstrations, and interviews are also used. Produced in cooperation with the Athletic Department of Iowa State College.

MARKETS FOR PRODUCER AND CONSUMER--Thursday, 10:15 p.m. Market trends, buying aids, and basic market information is presented graphically by Cap Bentley, Market Editor of WOI. Produced in cooperation with the Economics Extension Service, Iowa State College.

GUEST OF HONOR--Wednesdays, Fridays, 4:00 p.m. Visiting personalities are brought before Iowa TV viewers during this program. Guests may be the Israelian Minister to the United States, or a leading orchestra leader. Interviews are conducted by Ed Wegener.

FARM FACTS--Friday, 8:00 p.m. Top farm news and demonstrations featuring farm experts. Craighton Knau, Extension farm specialist at Iowa State College is featured on the program. Produced in cooperation with the Iowa State College Agricultural Extension Service.

MAGIC WINDOW--Monday through Friday, 5:00 p.m. Playtime program for pre-school and elementary grade youngsters. Quarter-hour program emphasizes participation in program projects, and is designed to inspire creative interest rather than passive observation of a program. Produced in cooperation with the Child Development Department of Iowa State College.

TWELVE O'CLOCK WHISTLE--Monday through Friday, 12 o'clock noon.

Quarter hour of fun and facts with the staff musical combo, interviews with visiting personalities, and coverage of special events. Show is also used to promote other station programs, and features guest appearances by producers and other staff members who do not ordinarily come before the studio cameras.

TELEVISITS--Monday through Friday, 5:45 p.m. Quarter-hour of letters

from viewers and answers by Ed Wegener, program development supervisor for station, and well-known station personality. Station policy, the why and where of TV station operation, and special program news are incorporated into the show. Informal and chatty, the program is an attempt to bring viewers into closer sense of participation in station programs and policy.

FROM THE MIND OF MAN--Monday, 7 p.m. With Dr. Curtis Page of Drake

University as moderator, the program features two other subject experts (on a rotating basis) as they discuss great books. Special emphasis is made upon the correlation of past writings and present situations. Produced by WOI-TV under a grant from the Fund for Adult Education. Each program is kinescoped, and the TV recordings will be made available to other educationally-owned and operated TV stations as they begin operation.

SURPRISE PACKAGE--Monday, 10:30 p.m. Half-hour show produced weekly,

dealing with a special event or public service program. Among subjects considered here have been the Iowa Civil Defense

organization, vote drives by the League of Women Voters, Des Moines Art Center exhibits, American Education week, the New Revised Bible, and similar shows.

YOUR HOME HOUR--Tuesdays, Thursdays, 2:30 p.m. Homemakers' news with demonstrations by Iowa State College specialists and visiting personalities. Often features continuing information such as a series on canning and freezing, landscaping your home, etc. Produced through the cooperation of the Iowa State College Home Economics Extension Service.

DOWN TO EARTH--Tuesday, 8:00 p.m. Half-hour of latest farm news with demonstrations by specialists in the field of agriculture and related areas. Program is informative for farm and city dweller alike, but emphasizes farm interests. Also incorporates such musical talent as a county or 4-H club chorus. Studio allows farm machinery to be driven in for demonstration purposes, and these facilities are utilized often on DOWN TO EARTH. Produced in cooperation with the Iowa State College Agricultural Extension Service.

SPECIAL FEATURES--Friday, 10:30 p.m. This half-hour period is made available on a weekly basis for special events coverage, of a public service or educational nature. Examples of programs include a show on how to use voting machines, American Education week, Blood Donors, and similar shows. Produced in cooperation with Service organizations, and college departments.

NEEDS AND POTENTIAL USES FOR EDUCATIONAL TV IN IOWA

If "educational" television implies program service devoted exclusively to the schools and colleges, or if it means nothing but formal classroom programs, the expression is misleading.

Many thoughtful Americans, including people in all segments of our society, look upon educational radio and educational television as program service complements to that which is offered by commercially owned and operated broadcasting stations and networks. Television service devoted entirely or in large part to entertainment is not complete television service. Television is a mass communications medium like printing. No one would suggest that printing should be devoted entirely to advertising, comic strips, jokes, novels and other light entertainment. It is no more logical to think of television strictly as an entertainment medium.

Educational, public service television means the fulfillment of all that television's potential can offer. Therefore, educational television is not a duplication of commercial television; rather it is the complement---so to speak, the other side of the coin---of commercial television.

The distinction between educational and commercial program services implies neither praise or condemnation for either kind of service as a class of broadcasting. There are both "good and bad" educational stations as well as "good and bad" commercial stations.

In twentieth century American life there is as much need for the services of commercial broadcasters as there is for educational broadcasters. No enlightened American can successfully challenge the

importance of commercial broadcasting to our prosperous economy; and none can deny the utility of wholesome entertainment service commercial broadcasting has brought into our homes. Moreover, all Americans---including educational broadcasters---will forever be indebted to the commercial broadcasting industry whose ambition, ingenuity and capital investment have been largely responsible for the magnificent technical development of the broadcast media.

Nonetheless, a careful examination of the program services of commercial broadcasting in America reveals an extremely heavy bias in the direction of entertainment programs to the exclusion of educational and public service programs. Anyone familiar with broadcasting as a business can readily explain this fact. Commercial broadcasters are businessmen in a private enterprise economy. As businessmen in the American tradition they seek to maximize their profits and minimize their losses.

Essential to the prosperity of a commercial broadcaster is the ability of his programs to attract and hold a large audience. His programs are paid for by advertisers whose interest it is to reach the largest possible audience with a message which effectively sells their products or services.

These are the economic necessities of life for a commercial broadcaster for which no one needs to make apology.

However, the conditions of operation which economic necessity places upon a commercial broadcaster limit rather sharply the kinds of program services he can afford to give his audience. He is forced into the position of offering largely programs of common denominator interest to the public---programs of mass appeal. Unfortunately, masses of

sufficient size to warrant an advertiser's investment have thus far been attracted largely by pure entertainment programs. Few of the best educational and public service programs offered by commercial broadcasters have been able to attract sponsorship, and because of this relatively few programs of these kinds have been offered at all.

Among even the most enlightened of Americans the concept of the radio audience or the television audience persists. This erroneous concept places all Americans in a single pigeonhole of needs, wants, and interests. It results in a stereotyped broadcast service designed to please all of the people all of the time whereas it actually satisfies only some of the people some of the time.

The so-called audience for radio or television programs is actually a composite of audiences. It is a collection of minorities characterized by great individual differences in program needs and wants. Many of these minority audiences are large in numbers---approaching a million in size---yet not large enough to warrant advertiser's sponsorship in bringing programs of service to them. Service to these significant minorities among whom are such classes as farmers, businessmen, and school children has been one of the major contributions of educational radio. Such service is also part of educational television's role.

The development of educational television services in America cannot reasonably be based on a "holier than thou" attitude toward commercial television because who is to say it is "holier"? Rather, educational television must depend for its support upon its potential to serve the public in a manner which complements commercial television services---a service which beside that of commercial broadcasters represents the total range of public interest and necessity.

Educational broadcasters cannot justify their existence unless they provide program service which the public wants and needs and which it cannot readily get in sufficient quantity or quality from commercial stations; moreover, the educational broadcaster must provide service which is both effective and economical.

The Iowa Joint Committee on Educational Television is convinced that Iowans both want and need an educational television service; that the resources of the state for providing such service are great; and that a state-wide television service can be established and operated at a surprisingly low cost to the people.

IJCET looks upon Iowa's educational television needs as falling into three general categories of program service: (1) public school programs, (2) adult education programs, and (3) general public service programs.

Public School Service

In television the classroom teacher has a vital and compelling audio-visual tool which, when used to the best advantage in many course areas, results in teaching effectiveness unsurpassed by any other combination of teacher and audio-visual aid.

As mentioned above, Iowa's three state-owned institutions of higher education together with the Department of Public Instruction are now producing regular classroom programs in the WOI-TV series entitled, "Iowa TV Schoovertime." (See descriptions of these programs on page 19.) It is their purpose to supplement and enrich the classroom curriculum, not in any sense to replace the classroom teacher.

The "Iowa TV Schoovertime" series is the first television classroom

series ever offered to central Iowa elementary and secondary schools. It began in October at a time when only a few schools were equipped with television receivers.

Six weeks after the series began a careful survey was made to determine how many schools were using the program series. Questionnaires were sent to all 190 school superintendents whose schools lie within WOI-TV's primary service area. At the time of this writing 108 superintendents have replied.

During the first six weeks of the "Iowa TV Schoolltime" series, 27 of the 108 reporting school districts acquired television sets for their schools and used one or more of the program in the series regularly. In addition, 16 superintendents reported their teachers are taking pupils to private homes or places of business near the school building to watch the programs. Another 14 superintendents reported plans to purchase television sets for their schools in the near future to utilize this one series of classroom programs. Twenty-nine other superintendents said their schools are not using the programs for lack of television sets. All of these 29 superintendents reported viewing some programs in the series and were high in their praise for them. Of the total of 108 superintendents replying to the questionnaire, only one commented unfavorably on the series. (See sample comments of other superintendents at the end of this section.)

The survey revealed that after only six weeks of classroom TV program service, a total of more than 10,000 public school pupils in more than 300 classrooms were benefiting from this series. On the basis of television set purchases anticipated by superintendents in

the WOI-TV area, the number of pupils and classrooms taking advantage of "Iowa TV Schoolltime" should easily be doubled soon after the first of the year.

Because of these exceedingly favorable reactions to "Iowa TV Schoolltime", the three state schools and the Department of Public Instruction plan to continue and expand this direct-to-the-classroom service.

This year Iowa's elementary public schools have a total enrollment of over 390,000 pupils; enrollment of the secondary public schools is greater than 118,000. In addition, approximately 51,000 pupils attend elementary or secondary parochial schools in Iowa. This makes a total of over 621,000 school pupils---almost one-fourth of Iowa's total population! Iowa's public school system has long been recognized as among the best in the nation, one which is set up to afford every pupil a premium education whether he lives in the city or the country. In recent years, however, the increased cost of education accompanied by a serious shortage of teachers has made many schools hard-pressed to maintain their traditional high standards. The hardships has been particularly great for schools in the smaller districts.

With the advent of educational television, a great new instrument has been placed in the hands of teachers and its benefits are as readily accessible to the small schools in rural areas as they are to the large schools in the city. Educational television can bring to every school-room the skill and ingenuity of the best available instructors, the newest and most expensive laboratory and teaching devices and the unmatched effectiveness of television itself as an aid to the classroom teacher. Television and the teacher, working in close cooperation can

do an educational job for Iowa exceeding the best of its traditional high quality service.

Classroom television has a very significant bonus value which indirectly but continuously contributes to the improvement of teaching. The "television teacher" is chosen because of her superiority as a professional teacher, her skill and ingenuity as one who can motivate the pupils and "put across" the lesson. Certainly the television teacher cannot ever supplant the classroom teacher; those who rashly maintain that she will, are not students of the educational process. But the television teacher's techniques can serve as a model to the class room teacher who ambitiously seeks self-improvement. The result can be that teaching effectiveness in every Iowa classroom will be doubly enriched by the use of television service.

There is another bonus value of television on which some observers rate as high as direct television teaching. For many years leading educators have recognized radio as a medium which could bring to their pupils great public events---speeches of our leaders, activities of our government, etc. Television does not bring the event to the pupil. Rather it takes him to the scene to deliver the full impact of the event as it appears to the eye-witness. Who can measure the worth of such experiences to the pupils in Iowa's schools!

Adult Education

Educational television for use in the classroom describes only a third of its total utility to the people of Iowa.

Last year approximately 400,000 Iowa men and women, in addition to those enrolled in colleges and universities, participated in some form of adult education activity. This total accounts for more than one in

every 5 Iowa adults.

Like Americans everywhere these thousands of Iowa adults are actively seeking means of self-improvement. For some adult education means a chance to complete a high school diploma or take some specialized courses which they couldn't take in high school. For many others it means a chance to get part or all of a college education which is lacking because of its cost or the intervention of marriage and a family. To the largest proportion of this group, adult education activity is the opportunity to supplement formal education with vital, up-to-date information essential to increased success in a business, trade or on the farm. To these men and women, adult education means money in their pockets.

These thousands of Iowans now participating in adult education activities are distinguished by their determination for self-improvement and their willingness to use their limited leisure time after a day of work for learning. Thousands of others equally in need of these after-work educational services are unable to take advantage of them because they may be had only at a great inconvenience, or perhaps because such services are not available in the community.

It is the extension of the campuses of Iowa's great educational institutions to the borders of the state, to every city, village and farm home. It is ready access to their classrooms, laboratories, and libraries. Educational television can mean multiplying by thousands the number of citizens who can benefit from Iowa's system of higher education.

To all of these adult Iowa men and women, educational television holds the promise of broad, effective, economical and convenient opportunities to learn right in their own homes.

To the farmer, the promise is for accurate up-to-date information on the care and handling of his livestock, the efficient planting of his

land, the profitable marketing of his animals and produce. To the unschooled, the promise is for acquaintance with the great music, literature and art of our time. To the businessman or woman it is the chance to learn new skills and techniques which help them become of more value to their firms. To the mother it means sound advice on caring for her children's health and welfare. To the doctor, dentist and nurse, educational television can afford to offer specialized service which brings the latest developments in medicine and dentistry to him by the fastest, most complete method. There is no major occupational or adult interest group to which educational television cannot be of important service.

Certainly, these adult education activities which educational television can engage in are going on now in hundreds of Iowa communities and by other means of communication than television. But educational television has advantages over other methods which are indisputable.

1. Educational television is economical. Whereas, for example, it takes hundreds of agricultural extension workers to reach most of the farmers in Iowa with demonstrations of farming techniques, all of the farmers can be reached by one person simultaneously with the same demonstration delivered with equal or greater effectiveness by means of television. WOI-TV and the agricultural extension service in central Iowa have already proved the value of television as a complement to regular extension work. One extension worker who travels extensively throughout the state has asserted he reached more rural people with his appearance on a single WOI-TV program than he had reached in a year of travel.

2. Educational television is fast. If today medical science were to announce the discovery of a new surgical technique which could save hundreds of lives tomorrow, a demonstration and explanation of this technique could

be delivered to Iowa physicians faster and more effectively than by any other means of communication. So vital is information on new developments in dentistry that frequently dentists throughout the nation pay a great price for a mammoth long distance conference call; thousands of dentists simultaneously listen on the telephone to the information which one or more of their distinguished colleagues has to offer. What is true of the needs for rapid service to physicians and dentists is also true for engineers, farmers, businessmen, public officials, census takers, civil defense workers, election clerks, peace officers, and dozens of other groups. Television has already been used to serve effectively and rapidly the needs of all of these groups.

3. Educational television is convenient. Leaders of the entertainment industry find the convenience of television is its greatest competitive advantage over many other forms of entertainment. Entertainment can be had by the flick of a switch without "dressing up", hiring a baby sitter, driving a car for miles, searching for a parking place, or, for that matter, even getting out of one's favorite easy chair. Moreover, there is no ticket of admission to purchase for a "reserved seat", the best in the house.

The convenience of educational service by television is the same as for entertainment service. Thousands of Iowa men and women who are unable to enroll in night school, or drive miles to attend a class or short course, or to pay the tuition fee for special educational service would eagerly receive the educational services of television in their own living room.

Last spring WOI-TV broadcast a series of homemaking programs entitled "Make a Dress" in which women were asked to enroll for a TV course in dressmaking. The response was immediate. Over 3,000 central Iowa women enrolled in the course and made dresses at home under the direction of the television instructor. Many other thousands did not enroll, but audited the course. Also, last spring, WOI-TV broadcast a series of history lectures under the title, "Background Europe---Versailles to Yalta." The series was a television adaptation of a history course offered by Iowa State College. No enrollment with special materials was offered with this series, but careful surveys indicated between 15,000 and 20,000 women viewed this program series daily.

General Public Service

The third major area of program services which a state-wide educational television system could bring to the people will be called "general public services"; they are distinguished from the other two major services described above by their lack of formality as direct teaching programs.

For many years Iowa parents as well as those in all parts of the nation have felt a deep concern for the kind of materials their children read or listen to on the radio or see at the movies. PTA's, community radio councils and others have raised stern objections to some of these materials. Certainly every parent has many times unwillingly observed his children avidly consuming reading or radio program materials which he felt were unfit for them.

With the advent of television a new factor has been added to the parent's problem. Sound psychological research has proved television's

impact on children is greater than that of any of the other media of communication. In fact, one prominent child welfare specialist has asserted television for many children has already replaced the school, the church, or even the home as the primary influence in their lives.

Steps must be taken to make sure television's impact on Iowa children is constructive, that it does not impair their healthy intellectual emotional and moral development. Such assurance would be part of educational television's role in Iowa.

Because of its unusual importance educational television's service to children has been given special attention. However, of equally high value are a host of other general service programs it could bring to the people of Iowa.

Just as the vast resources of Iowa's system of higher education can be extended throughout the state via television, so also can television expand the public service potential of the State Government and its many agencies such as the Conservation Commission; Departments of Health, Commerce, Agriculture, Public Safety, and Public Instruction; the Iowa Development Commission, and many others. Educational television can bring the government closer to the people and the people closer to its government than ever before.

A state-wide system of educational television can also make every living room easy chair a reserved seat in the concert hall and the theater; it can take the viewer to the scientist's laboratory or through the art gallery; it can transport him anywhere the camera can go from the tiny universe beneath the microscope to the four corners of the world.

A STATE-WIDE EDUCATIONAL TELEVISION NETWORK FOR IOWA

Unfortunately, the electronic nature of television is not like that of radio which when properly powered can span the nation and even the oceans. The signal of the most efficiently constructed television station transmitter in the nation is not consistently good beyond 50 to 70 miles.

If Iowa is to have state-wide educational television service it must be accomplished through a system of properly located stations spotted over the state. And when one considers the economy, efficiency and effectiveness of operating this system of stations cooperatively, the concept of a network becomes logical.

The Iowa Joint Committee on Educational Television recommends the construction of an Iowa Educational Television Network. With the assistance of an outstanding Washington, D. C., engineering consulting firm, IJCET has developed a plan for a network which will ultimately bring educational television service to every Iowa home.

Brief Summary of the Plan

The plan includes television studios and transmitters at Ames, Cedar Falls, Des Moines, and Iowa City plus transmitters only at Burlington, Council Bluffs, Davenport, Dubuque, Mason City, Ottumwa, Sioux City, and another transmitter located in another as yet unspecified northwestern Iowa community. Four of these 12 stations would operate on VHF channels and the other 8 on UHF channels.

The stations would be interconnected by a system of microwave relays. This interconnection would make possible simultaneous broadcast on all 12 stations of any program originating in Ames, Cedar Falls, Des Moines or Iowa City.

The network would operate on a non-commercial educational basis depending for its support upon public funds.

The total cost of constructing the 12-station network is estimated to be \$4,031,650. Estimates of annual operating costs of the network are not complete and would vary according to the type and amount of program service. However, it appears certain the network could provide a minimum of 60 hours of program service per week (3,100 hours per year) at a program cost of between one-half and three-quarters of a million dollars. Cost of station interconnection facilities cannot be estimated until final interconnection plans have been drawn.

Program Originating Stations

The advantages of locating network program originating stations at Ames, Cedar Falls, Des Moines, and Iowa City are apparent. In addition to the fact that Iowa State College already has a going concern in WOI-TV, the vast educational resources of the State University and the Teachers College as well as of the State College can contribute a major portion of the network's program needs.

The location of a program originating station at Des Moines would give the network ready access to the program resources of the departments of the state government as well as those of the Des Moines metropolitan center.

The division of TV programming and production responsibilities among four studio stations has several advantages to the proposed Iowa network.

1. No single station---commercial or non-commercial---can successfully produce high quality educational and public service programs to fill more than half of a total eight hour broadcasting day. WOI-TV is currently operating to the full capacity of its staff and facilities and is unable to produce more than 20 hours of acceptable quality local programs in a week. The magnificent television city recently opened by the Columbia Broadcasting

System in Hollywood is set up to produce a maximum of 28 hours of program service per week. Most commercial television stations rely for the great majority of their total program service upon network programs produced in New York, Chicago or Hollywood.

Therefore, the provision for more than one program originating station in the proposed Iowa network is required to afford the public a full day's television service of high caliber.

2. The enrichment of the educational network program resulting from full use of Iowa's institutions of higher education is reason enough to locate stations at each of the three schools. The practical problems of carrying the program resources of one of these schools to a distant television station are enormous, and would result in a diluted program product. Not the least of these problems is the expense both in money and time. In the interests of the public as well as of the institutions themselves, the direct participating of all three institutions is imperative.

No less important is the establishment of an educational television network studio at Des Moines, Iowa's capital city. Here the network would have ready access to the services of the state government. Moreover, Des Moines, as a metropolitan center would be a unique source of programs in the area of industry and commerce.

3. There is a bonus value to the location of studios at Ames, Cedar Falls, and Iowa City. With the tremendous recent growth of television in America has come an attendant need for college and university trained personnel in all of television's major functions: programming, production, engineering, administration and research. Iowa educators have long been supported in their belief that the best of all training in a specialized area comes with actual laboratory practice. It is no more efficient to teach students animal husbandry without animals or farms for their use, or journalism with-

out publications, or medicine without a hospital than it is to teach television without studio facilities.

Iowa's colleges and university need the facilities of television studios properly to train high quality professionals in this field. Television broadcast studios at the three state schools would be the laboratories for this training.

Relay Transmitter Stations

Relay transmitter television stations at Burlington, Council Bluffs, Davenport, Dubuque, Mason City, Ottumwa, Sioux City, and at another northwestern Iowa community would not originate studio programs. These stations would consist of transmitters and towers and small transmitter houses.

By means of microwave interconnection facilities each of these relay stations would receive programs originated by any one of the four studio stations and instantaneously broadcast these programs.

The relay stations proposed would not necessarily be located inside the communities listed. In some cases they would be set up at a favorable topographical location near these communities such as a high point of land. The exact location of transmitter towers at any of the network stations but Ames is as yet undetermined.

Of course, only technical engineering personnel would be required to operate the relay stations. No program, production or administrative personnel would be required. It takes only one man to operate a television transmitter station.

Network Interconnection Facilities

At the present all commercial television stations which carry "live" network programs are interconnected with the network either by coaxial cable, microwave relay, or a combination of the two. These interconnection facilities for the most part are owned and operated by a common carrier, the American

Telephone and Telegraph Company. For the use of these interconnection facilities television stations and networks pay a rental fee to A. T. & T. The amount of this fee is regulated by the Federal Communications Commission.

The advice of IJCET's engineering consultants is to depend upon micro-wave interconnection facilities for the Iowa Educational Television Network. There remains the option of renting facilities for the Iowa network from A. T. & T. or constructing privately owned facilities at public expense. The latter option is dependent upon FCC approval. As of this writing the FCC has not yet approved private ownership of television network interconnection facilities. However, the desire of a number of states contemplating state-wide networks to own their own interconnection facilities will likely lead the FCC to a favorable decision on this matter.

On the basis of present rates charged by the A. T. & T. it appears there would be long run economy for Iowa to own and operate its own interconnection facilities. However, additional engineering study may lead to the opposite conclusion.

Slightly more than 1,300 airline miles of interconnection service would be required for Iowa's network of 12 stations. The annual A. T. & T. rental charge for this interconnection service is estimated to be \$553,800 at current rates. If Iowa were to construct and operate its own interconnection facilities, the capital investment would be about \$1,311,950 with an estimated annual operating expense of \$116,780.

Administration and Operation of the Network

Specific details of the proposed network's administration and operation are still under study by IJCET. However, certain basic requirements for efficient operation of any broadcasting network will undoubtedly be covered by IJCET's ultimate proposal on administration and operation. Some of these

are:

1. A board or committee representing the educational interests of the people of Iowa which can make general policy regarding network program services and fiscal matters.
2. A general network staff responsible for executing the board's policy and coordinating the operations of the several stations.
3. A program director, program advisory board or a combination of the two to determine specifically what programs will be presented, when, and at what studio station they will be produced.
4. Staffs at the local studio stations actually responsible for developing and broadcasting network programs.

Financing the Proposed Network

The network would be strictly a public service to the people of Iowa and a logical extension of the educational services traditionally supported by the state. IJCET recommends the construction and operation of the network out of public funds.

It is neither desirable or necessary that all funds required for construction of the network be provided by the 1953 legislature. The cost of the network could be borne by appropriations in two or three bienniums upon the wishes of the people and the legislature.

Any applicant for a television station license, whether commercial or non-commercial, must demonstrate to the FCC (among other things) financial responsibility. That is, plans for a broadcasting station must be backed by sufficient funds to assure both its construction and efficient operation.

What the exact financial requirements now are for educational station applicants is subject for disagreement. By a very close decision the FCC granted a TV license to Kansas State College with only the intention of the

Board of Regents to ask the Kansas legislature for funds as a financial basis for the station.

Many FCC observers agree that its action in granting the Kansas State application was somewhat irregular, and that the FCC will not likely grant additional licenses to non-commercial applicants without stronger evidence of financial responsibility.

It is imperative, therefore, that a significant portion of the total construction and operating cost of the proposed Iowa network be provided by the 1953 legislature. Without tangible financial backing in the form of legislative appropriation it is very unlikely the FCC would grant licenses for the construction of any of the proposed network stations. Thus, there would be no sound basis for expecting the FCC to continue its reservation of educational TV channels in Iowa beyond its announced deadline of July 1, 1953. Without the protection of the FCC reservation channels vital to the network would undoubtedly be lost to education in Iowa by default.

Alternatives to State Financing of the Network

The only obvious alternative to legislative appropriation to construct and operate the proposed network is that of commercial or quasi-commercial operation. One can well predict the opposition to operation of the educational network as a commercial enterprise. Moreover, such a mode of operation would result in a kind of program service quite opposite from that on which the educational television network has been proposed by IJCET. Thus, the very reasons which justify the establishment of an educational TV network also dictate its form of financial support.

The operation of the state-wide network on a commercial basis would result in uneconomical and unnecessary duplication of program services which commercial broadcasters are ready to offer when they get the opportunity.

Quite apart from the desirability or undesirability of operating an educational television network on a commercial basis are the conditions imposed by Federal Communications Commission rules and regulations.

Five of the twelve VHF and UHF channels on which the proposed network stations would operate have been set aside by the FCC exclusively for non-commercial educational use. Six others are channels not specifically assigned by the FCC nor designated either for commercial or non-commercial use. (These are the so-called "drop in" channels which the FCC is expected to approve upon demonstration that their use would not interfere with stations set up on channels which the Commission has assigned.)

The twelfth channel is that on which WOI-TV would operate. (WOI-TV is now on VHF Channel 4. In the spring of 1953 WOI-TV will change to VHF Channel 5 at the request of the FCC. Many presently operating television stations will make similar channel changes consistent with the FCC's desire to eliminate station interference in areas between communities in which stations now operate on the same channel.)

The license on which WOI-TV now operates and will operate in the future is unrestricted in the sense that it does not require WOI-TV to operate either commercially or non-commercially.

Stages of Network Construction

As heretofore stated, IJCET contemplates a state-wide educational television network which, when completed, would serve every Iowa home. The speed with which the entire system could be constructed and put into operation is dependent upon several factors. The primary factors are (1) finance and (2) delivery of equipment. There is the additional factor of operating experience which can be bought only with time.

With these and other factors considered, IJCET recommends the con-

struction of the network system in stages. Appropriations covering construction in stage 1 would in all likelihood be accepted by the FCC as sufficient evidence on which to justify the continued reservation of other undeveloped network channels pending additional appropriations by the next legislature. In the opinion of IJCET an appropriation substantially less than that required in stage 1 would seriously jeopardize Iowa's chances of using some or all of the other channels specified in the network plan.

In summary, the intent of Iowa to use all of the channels specified in the network plan must be demonstrated in the 1953 legislature by financial support for the development of the channels in stage 1 of the plan. Support for less than stage 1 now would seriously jeopardize the entire plan.

Stage 1 of the Network

Stage 1 construction recommended by IJCET includes:

- A. Studio and transmitter facilities at Cedar Falls.
- B. Studio and transmitter facilities at Iowa City.
- C. Studio facilities at Des Moines (transmitter in a later stage).
- D. Microwave interconnection of present Ames studio with studios at Cedar Falls, Iowa City, and Des Moines.

The total capital cost for stage 1 is estimated to be \$1,008,400. This includes studio and transmitter facilities; it does not include interconnection facilities. (See appendix for itemized costs.)

Stage 2 of the Network

IJCET recommends the following construction in stage 2:

- A. Installation of a transmitter for the Des Moines studio constructed in stage 1.
- B. Transmitter facilities at Council Bluffs.

- C. Transmitter facilities at Sioux City.
- D. Transmitter facilities at another as yet unspecified community in northwest Iowa.
- E. Interconnection of the three western Iowan transmitters with stations constructed in stage 1.
- F. Transfer of WOI-TV's transmitter from its present site southwest of Ames to a site near Boone. This change in WOI-TV's transmitter site would improve its coverage of north central Iowa and minimize overlapping service brought about by the proximity of the Ames and Des Moines transmitters.

Transmitters at Council Bluffs and Sioux City would radiate directionalized signals which would maximize coverage in those cities and the Iowa area to the east of those cities, and minimize the "loss" of signal power to area in Nebraska.

The total capital cost for stage 2 is estimated to be \$1,566,000. (See appendix for itemized costs.)

Stage 3 of the Network

IJCET recommends the following construction in stage 3 to complete the network system in Iowa:

- A. Transmitter facilities at Burlington.
- B. Transmitter facilities at Davenport.
- C. Transmitter facilities at Dubuque.
- D. Transmitter facilities at Mason City.
- E. Transmitter facilities at Ottumwa.
- F. Interconnection of the above stations with stations constructed in stages 1 and 2.

The signal of the Davenport transmitter would be directionalized for

maximum coverage in Iowa and minimum signal "loss" to Illinois. The signal "loss" of other stations on the eastern border of Iowa would not be significant enough to make directionalized signals necessary.

The total capital cost for stage 3 is estimated to be \$1,457,250. (See appendix for itemized costs.)

Recapitulation and Comment on Construction Stages

Total capital cost of the studios and transmitters of the network system is estimated to be \$4,031,650.

Stages of construction as outlined by IJCET will result in the following network development:

1. Stage 1 provides for the program nucleus of the entire system, the foundation upon which ultimate service to the entire state must be built.

2. Stage 1, though requiring less than one-third of the total network capital cost will provide network service to well over half of the state's total population. The lower cost of stage 1 results from the capital asset of WOI-TV.

3. Stage 2 will bring network service to another third of the state's population which lies in the western half of Iowa as well as to afford service in south central Iowa with the addition of the Des Moines transmitter, and improved service to north central Iowa with the relocation of the Ames transmitter.

4. Stage 3 fills out the plan with a guarantee of good educational network service to the eastern, northeastern and southeastern sections of the state not which were previously all or in part on the fringe of network station signals.

5. The three-stage IJCET plan provides not only for the orderly and efficient development of Iowa educational television, but also for a

relatively uniform distribution of its total cost over a six-year period.

(See appendix for maps depicting the stage-by-stage development of the proposed network system.)

Network Construction and Service Timetable

It is extremely difficult to make accurate predictions on the time required to put the three stages of the network into operation. Predictions must be based on factors over which no one now has positive control, such factors as (1) the extent of financial support of the network from the state legislature, (2) the ability of suppliers to deliver equipment for construction of the stations, (3) the construction of interconnection facilities by the state or by a common carrier company, and (4) the procurement and training of program and engineering personnel to operate the network. These factors are stated in the order of the problems they are expected to present. Obviously, financial support for the network plan is of the first order.

Qualified by the assumption that financial support as indicated for the three stages of network construction would come from the legislature, IJCET is able to make the following hypothetical timetable of network station operation commencement dates:

<u>STATION</u>	<u>HYPOTHETICAL STARTING DATE</u>
Ames	Immediate operation
Iowa City	July 1, 1954
Unspecified NW Iowa station	July 1, 1954
Des Moines	April 1, 1955
Cedar Falls	April 1, 1955
Council Bluffs	April 1, 1955
Sioux City	April 1, 1955

<u>STATION</u>	<u>HYPOTHETICAL STARTING DATE</u>
Burlington	July 1, 1957
Davenport	July 1, 1957
Dubuque	July 1, 1957
Mason City	July 1, 1957
Ottumwa	July 1, 1957

Although provision for the Cedar Falls UHF station is made in stage 1 of the plan, its hypothetical starting date would be later than that of Iowa City (VHF) due to expected delay in obtaining UHF transmitter equipment.

At the present time there is but one UHF television station in operation (at Portland, Oregon). Other UHF applicants who have received licenses to construct stations are unable now to procure UHF equipment. The supply of UHF equipment will rapidly increase as manufacturers move to meet the recent sharp demand for it. However, demand is expected to outpace supply for several months to come.

Despite what may appear to be a "long wait" for the completion of the proposed network, it is highly probable its completion as indicated in the hypothetical timetable would be ahead of parallel commercial station construction in many areas of Iowa. In fact, there is good reason to predict that the proposed network would bring television service to hundreds of Iowa communities which will never be served by commercial television stations.

In summary, the hypothetical timetable of network construction should be viewed as a desirable and practical goal.

GENERAL SUMMARY

The Iowa Joint Committee on Educational Television, a special committee authorized by the Board of Education and the Department of Public Instruction, is convinced the citizens of Iowa are entitled to the services of educational television.

The establishment of a state-wide educational television network is an economical, efficient and effective means of greatly extending the vast educational resources of Iowa's schools and colleges to all of its citizens.

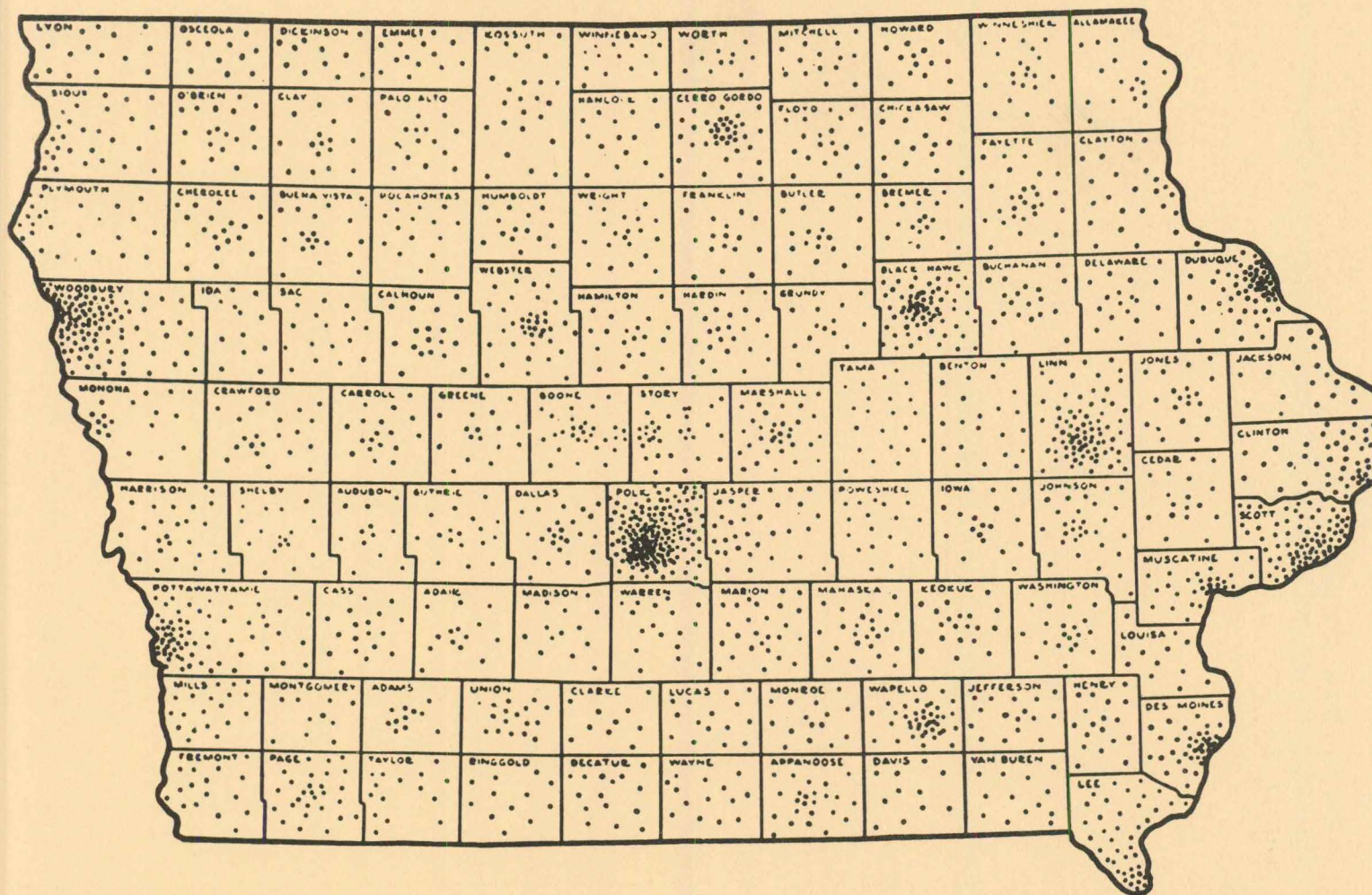
IJCET recommends the construction and operation of a 12-station educational television network in three stages. Stage 1 provides for stations at Ames, Cedar Falls, Des Moines and Iowa City; stage 2 provides for additional stations at Council Bluffs, Sioux City, and at another unspecified community in north-western Iowa; stage 3 completes the network with stations at Burlington, Davenport, Dubuque, Mason City and Ottumwa. Programs would originate at the Ames, Cedar Falls, Des Moines and Iowa City stations and be broadcast simultaneously over all stations in the network. Total estimated capital construction cost is \$4,031,650. Estimated annual program cost is between \$500,000 and \$750,000. At present no estimate can be made on the cost of interconnecting by microwave facilities the 12-station system.

The proposed educational network would operate as a non-commercial system depending for its support upon public funds.

The Federal Communications Commission has opened the way for development of educational television service through its reservation of TV channels for the exclusive use of education. The FCC's reservation period expires on July 1, 1953. Unless positive steps are taken to use the reserved channels before that date, the opportunity to offer state-wide educational television service to the people of Iowa will be lost forever.

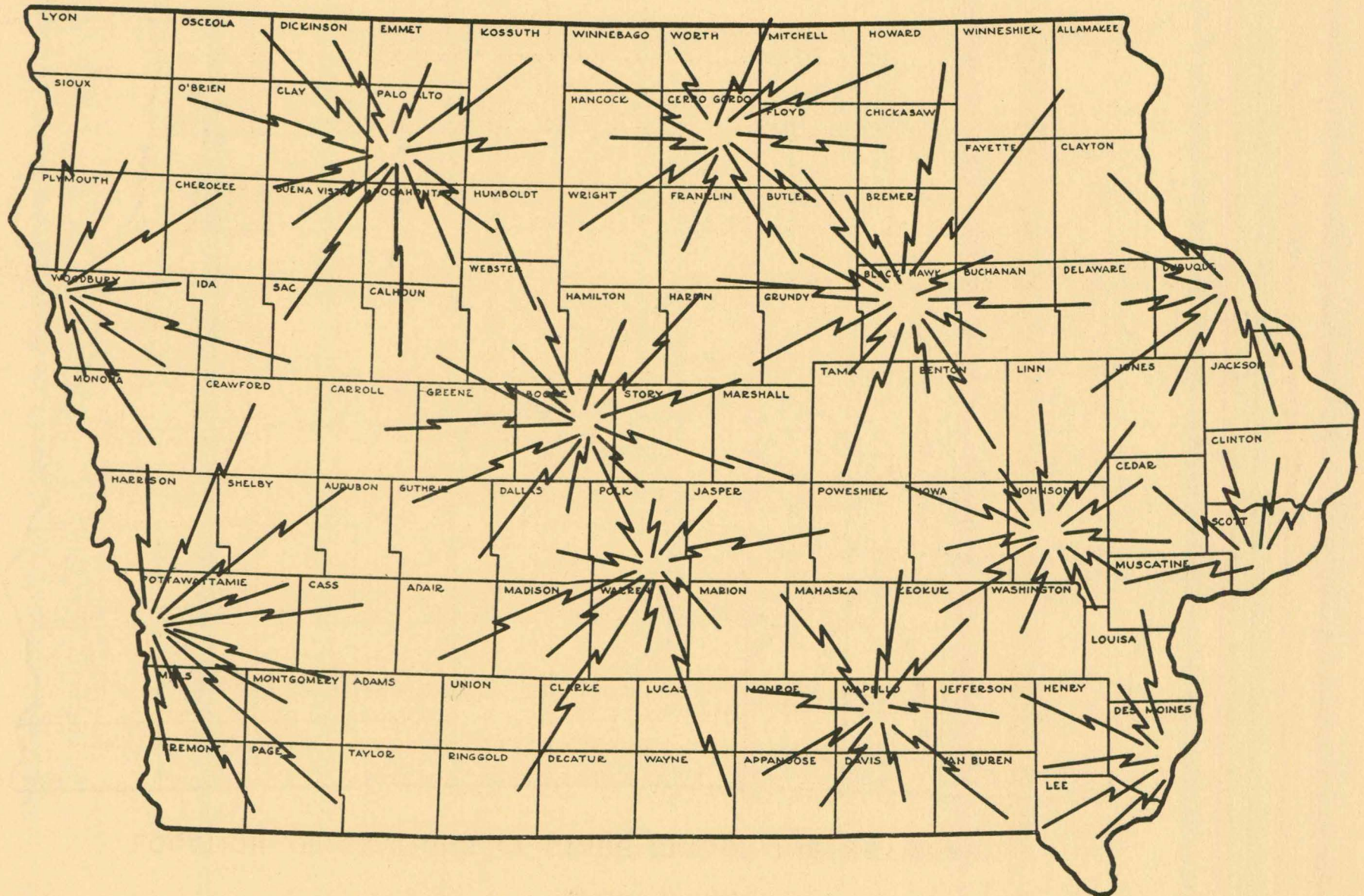
APPENDIX

DISTRIBUTION OF IOWA POPULATION

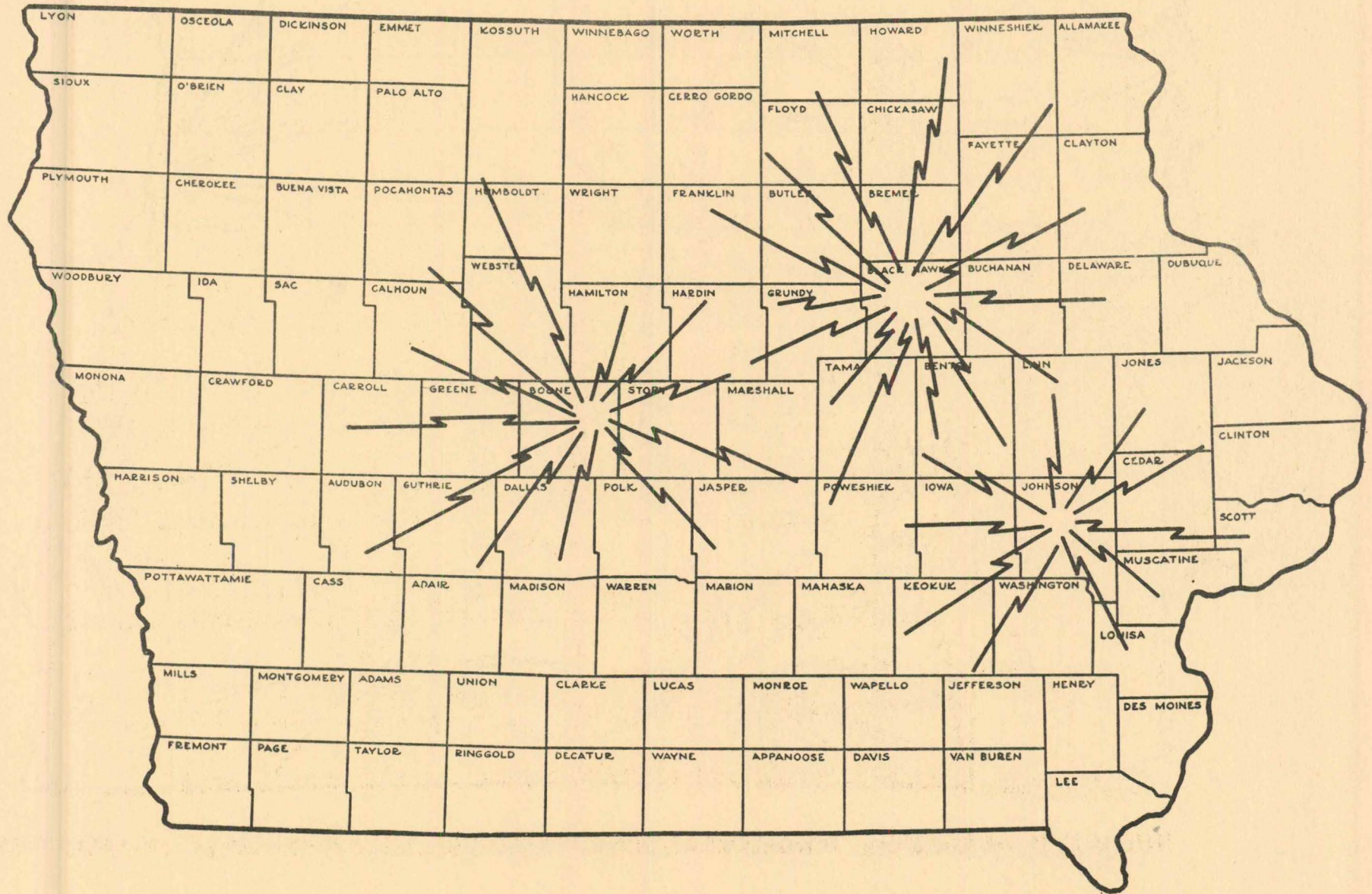


Each Dot Represents 1,000 Persons. Population 2,643,000 Census Bureau Estimate, July, 1949.

LOCATION OF STATIONS IN THE PROPOSED IOWA EDUCATIONAL TELEVISION NETWORK



LOCATION OF STATIONS IN STAGE ONE OF THE NETWORK



TOTAL ESTIMATED CAPITAL COST FOR STAGE ONE

	Ames	Cedar Falls	Iowa City	Des Moines
Land and Buildings	-	-		-
Transmitter Equipment				
a. Transmitter	\$82,400	\$232,300	\$211,700	-
b. Antenna, tower, & line	-	60,500	86,500	-
c. Monitoring and Input Equipment	-	17,500	17,500	-
Studio Equipment*	-	100,000	100,000	100,000
TOTAL	\$82,400	\$410,300	\$415,700	\$100,000

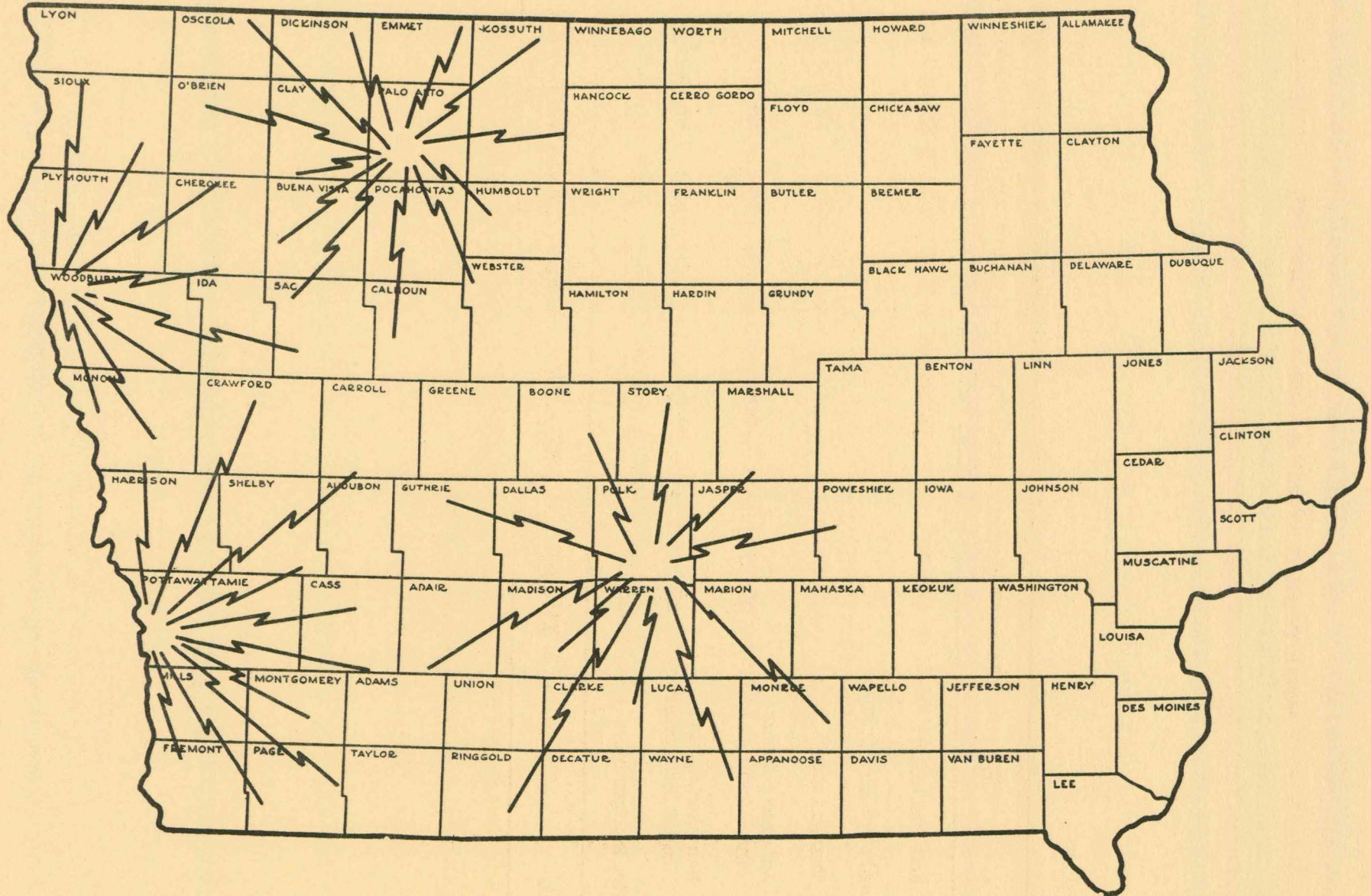
* A breakdown of studio equipment costs appears on the next page.

STUDIO EQUIPMENT REQUIRED AT THE CEDAR FALLS, IOWA CITY
AND DES MOINES STUDIOS

No.	Equipment	Cost
1	Film camera chain	\$ 11,150
2	16 mm projector @ \$4,700	9,400
1	Slide projector	150
1	Mirror changeover	450
2	Studio camera chain @ \$15,800	31,600
2	Stabilizing amplifier and power supply @ \$1,570	3,140
1	Synchronizing generator and power supply	4,000
2	Synchronizing distribution amplifier and power supply @ \$870	1,740
1	Camera dolly	2,200
1	Camera dolly	345
1	Studio switching console	6,090
1	Miscellaneous video	2,000
	Audio equipment	6,000
	Lighting equipment	9,000
	Test equipment	5,000
	Properties and office equipment	4,000
	Installation	3,000
	Total Studio Equipment	\$ 99,265

* This is a breakdown of the aggregate "studio equipment" item which appears in the Stage One Table of Capital Cost on the previous page.

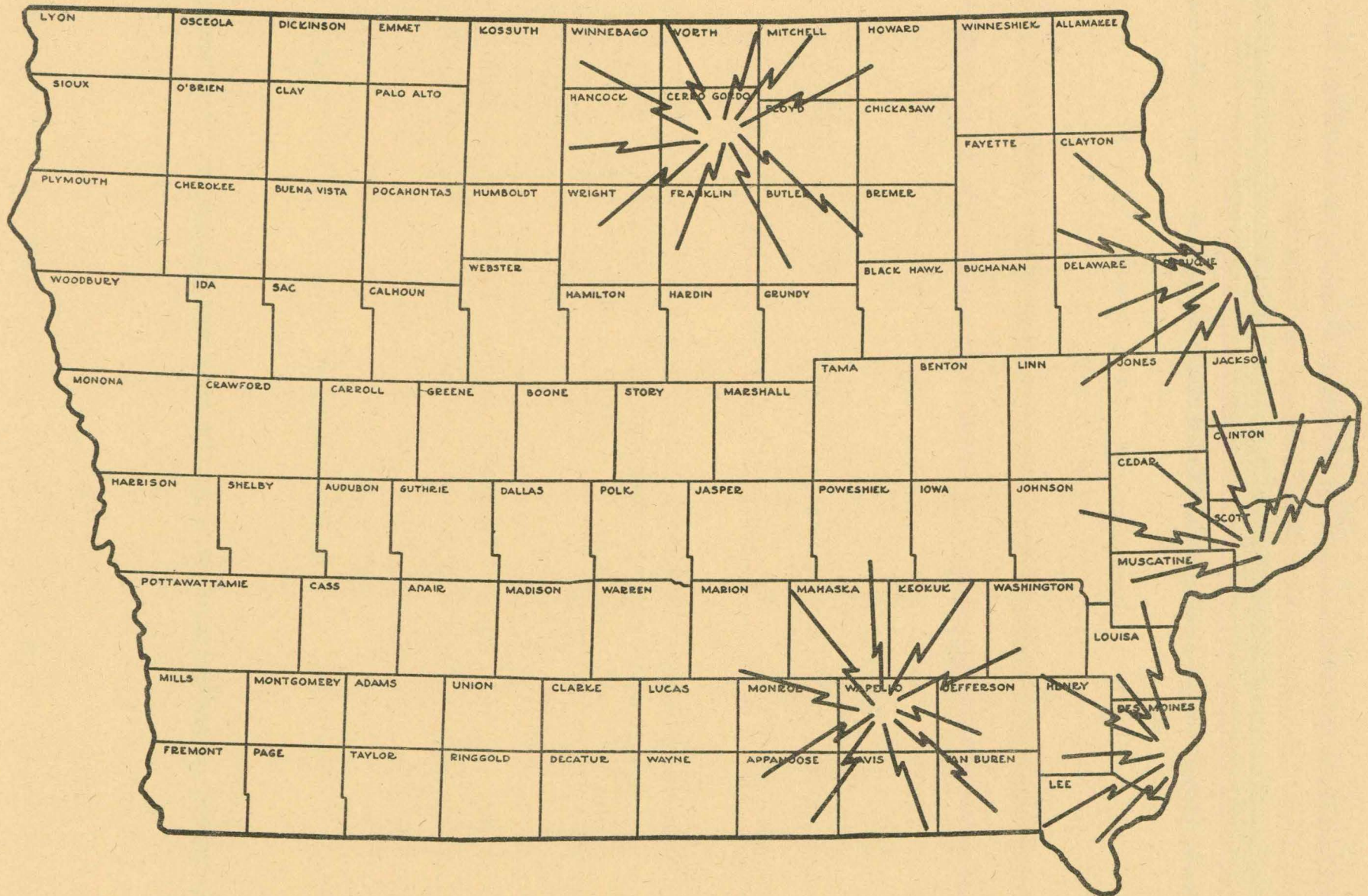
LOCATION OF STATIONS IN STAGE TWO OF THE NETWORK



TOTAL ESTIMATED CAPITAL COST FOR STAGE TWO

	: Council Bluffs:	: unspecified NW:	: Sioux City:	: Des Moines:	: Ames
	: Iowa Station	:	:	:	:
Land and Building	: \$ 38,000	: \$ 38,000	: \$ 38,000	: \$ 38,000	: -
Transmitter Equipment:	:	:	:	:	:
a. Transmitter	: 232,300	: 211,700	: 232,300	: 224,700	: \$ 80,000
b. Antenna, tower, and line	: 55,250	: 86,500	: 55,250	: 86,500	: -
c. Monitoring and Input Equipment:	: 17,500	: 17,500	: 17,500	: 17,500	: -
Studio Equipment	: 26,000	: 26,000	: 26,000	: 1,500	: -
TOTAL	: \$369,050	: \$379,700	: \$369,050	: \$368,200	: \$ 80,000

LOCATION OF STATIONS IN STAGE THREE OF THE NETWORK



TOTAL ESTIMATED CAPITAL COST FOR STAGE THREE

	:: Mason City	: Dubuque	: Davenport	: Burlington	: Ottumwa
Land and Buildings	:: \$ 38,000	: \$ 38,000	: \$ 38,000	: \$ 38,000	: \$ 38,000
Transmitter Equipment					
a. Transmitter	:: 232,300	: 232,300	: 137,500	: 90,700	: 90,700
b. Antenna, tower & line	:: 60,500	: 60,500	: 55,250	: 45,000	: 45,000
c. Monitoring Equipment	:: 17,500	: 17,500	: 17,500	: 17,500	: 17,500
Studio Equipment	:: 26,000	: 26,000	: 26,000	: 26,000	: 26,000
TOTAL	:: \$374,300	: \$374,300	: \$274,250	: \$217,200	: \$217,200

