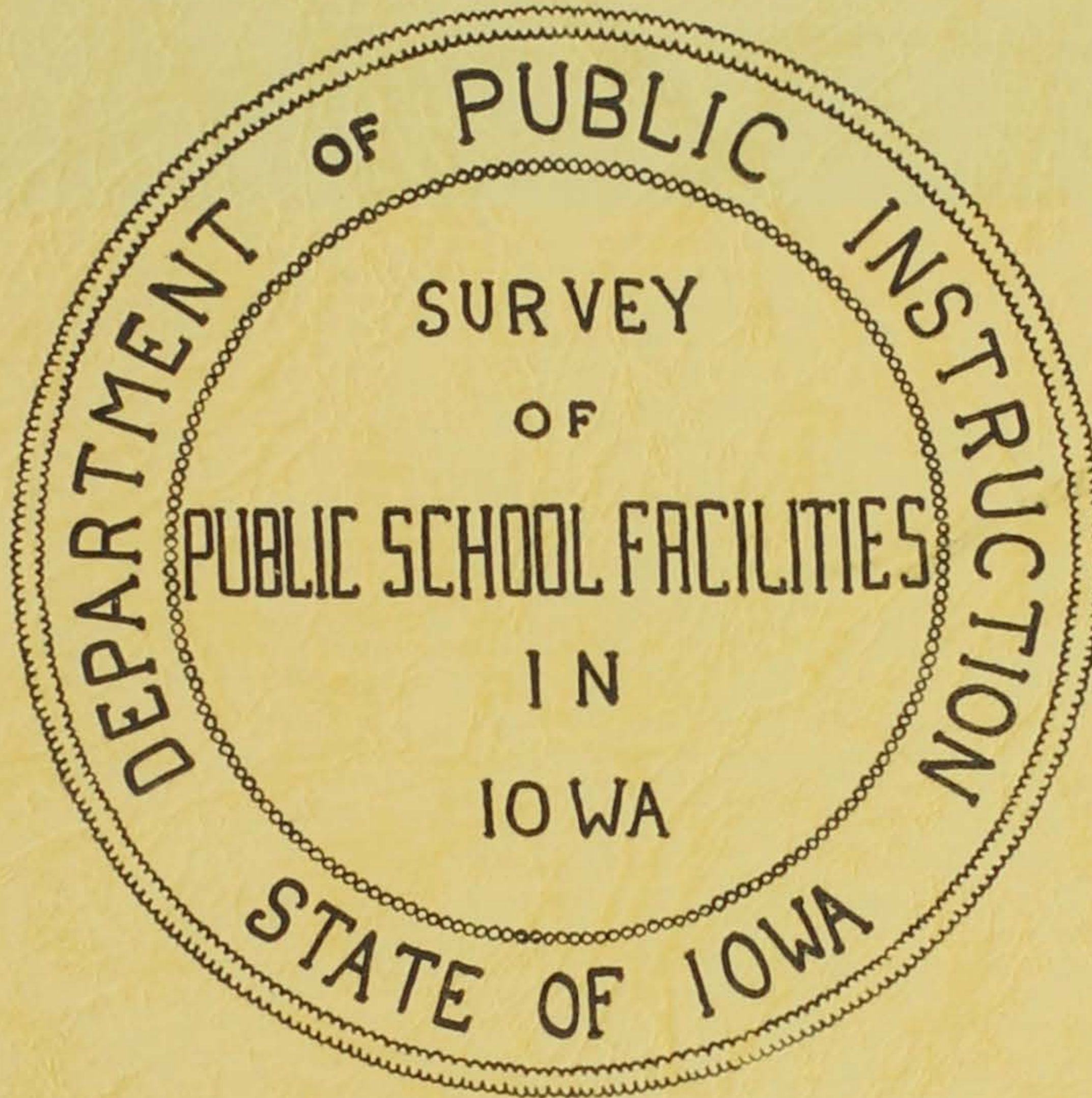


III School Facilities - Statistics

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1952



***Inventory of Existing Public School  
Facilities, Needs and  
Resources***

OCTOBER 1, 1952

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State of Iowa  
DEPARTMENT OF PUBLIC INSTRUCTION  
Jessie M. Parker, Superintendent

# **Survey of Public School Facilities In Iowa**

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INVENTORY OF EXISTING PUBLIC SCHOOL  
FACILITIES, NEEDS, AND RESOURCES

by the

DIVISION OF ADMINISTRATION AND FINANCE

Paul F. Johnston, Director  
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This Report Prepared by A. B. Grimes  
October 1, 1952



## FOREWORD

The 81st Congress directed (Title 1, Public Law 815) that a survey of public elementary and secondary school facilities be conducted in the 48 states, the District of Columbia, and outlying possessions, for the purpose of determining the facilities available, the need for new construction, and the development of a long-range master plan for school construction and improvement.

Public Law 815 made Federal funds available to each state participating in the Survey on condition that Federal funds would be matched with state funds or services, dollar for dollar. Congress allocated \$47,600 to the State of Iowa to help defray the cost of this Survey. The 54th General Assembly of Iowa evidenced its approval of this Survey and appropriated \$25,000 for the biennium to meet funds granted from the Federal government.

The first part of this Survey has now been completed and is herewith submitted as a Report on the status of school facilities in Iowa and the needs for the school year 1952-53. It should also serve as a basis on which a long range plan for school construction and improvement is premised.

JESSIE M. PARKER, SUPERINTENDENT,  
DEPARTMENT OF PUBLIC INSTRUCTION

October 1, 1952



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## Chapter I

### NEED FOR A SURVEY

There has been a large increase of births the past few years and the first wave of these youngsters is already in our schools. The increase came in two waves, one in 1942-43 which has been crowding our schools since 1948. The second one, much larger, started in 1946 and has continued ever since with very little let-up. These are now in our first grades and a much larger group demands admission in our kindergartens.

In September of 1951 the enrollment in the schools of the nation was 800,000 greater than in the previous year. At the beginning of school in September of 1952 it is estimated that there will be 1,700,000 more children enrolled than in 1951. The school enrollment is expected to climb until 1958. At the present rate of increase this will mean that in 1960 we will have 34,000,000 children in school, over 7,000,000 more than we had in 1950 and will need at least 600,000 more classrooms.<sup>1</sup>

This also means that during the next ten years the nation will need 750,000 new teachers. During 1951, with some 605,000 elementary teachers, 34,000 more were needed, and, sad to say, 100,000 of these 605,000 are not qualified to teach school.

Other factors that have contributed to the present school situation are these:

1. During the depression years of the '30's there was a gradual decline in the national birthrate which the population experts prophesied would continue. Practically no school construction took place at this time because of financial strain.
2. During the period of the second World War, 1940-45, very little school construction took place because men and materials were concentrated on winning the war.
3. Since 1945 school boards all over the land have been struggling with deterioration of school buildings because of reasons stated above, the sudden rise in the national birthrate, and the steadily increasing cost of construction and equipment due to the inflationary economy of our nation. Along with these is the pressure of the Korean war and the difficulty of getting controlled construction materials and permission to build from the National Production Authority.

Dr. McGrath of the U. S. Office of Education, stated that in his opinion "the American people do not realize what the current school problems are, and they are getting worse every day; instead of going forward, we are going backward."

"The threat of war is of grave importance in forming judgments, but so is the abandoning of a fundamental principle. The American people are committed to giving each child educational opportunities according to his abilities. \* \* \* The abandonment of this principle would be to knowingly permit an adulteration of education that could seriously handicap the future of the nation."

The destiny of a nation is determined in its classrooms. If we have inefficient teachers and have to house our children in church basements, old store buildings, unsanitary and unsafe school quarters, or, because of overcrowded conditions, have to send our boys and girls to school in shifts, each going only two or three hours each day and then on the streets the remaining school hours—

then we may well expect a different generation of Americans tomorrow.

The needs of the country cannot be met by schools adequate only for the demands of yesterday. A nation must give high priority to its educational system. The quality of teachers and buildings must be commensurate with the kind of product expected of education.

### History of the Survey

"For a number of years leaders in the field of school plant planning and various educational and other organizations have been making estimates of the amount of classroom construction needed (1) to accommodate increased enrollments; (2) to reduce the backlog in classroom space needs; (3) to replace obsolete facilities; (4) to permit the needed reorganization of small, uneconomical school districts; and (5) to permit the expansion of educational programs to include many services now considered essential."<sup>2</sup>

President Truman in his 1950 budget message said: "We know that a shortage of school buildings exists in many parts of the country as a result of wartime deferment of construction and the increase in the school-age population. We do not know the over-all extent of the shortage, the particular areas in which it exists, and whether state and local governments can alleviate it without special Federal aid for construction. In order to provide an adequate factual basis for further consideration of the problem, I ask the Congress to authorize a survey of educational needs and the adequacy of state and local resources available to meet those needs".

A similar comment appeared in the President's 1951 budget message, and again in 1952 his message emphasized the fact that the future role of the Federal Government relative to school construction needs may be determined largely by the information produced by the School Facilities Survey concerning the status of school plants throughout the nation.

For the past several years the Senate and House offered several proposals pointing up the desirability of a national survey. The National Council of Chief State School Officers and other groups have often stressed the desirability of a through study of the national schoolhousing situation. Finally in September, 1950, the 81st Congress passed Public Law 815 which under Title I stated its purpose: "to assist the several states to inventory existing school facilities, to survey the need for the construction of additional facilities in relation to the distribution of school population, to develop State plans for school construction programs, and to study the adequacy of State and local resources available to meet school facilities requirements. \* \* \*"

The Survey is divided into two parts. Part One is the inventory or phase for finding out the status of present facilities and conditions and is the phase which this report covers. Part Two is the long-range plan which suggests:

\* \* \* A state-wide master plan for a program of school plant construction according to existing and contemplated satisfactory administrative units and according to suitable school centers serving logical attendance areas.<sup>3</sup>

<sup>1</sup> How Many Classrooms Will We Need — Ray L. Hamon, Chief of School Housing Section, U. S. Office of Education — from School Life.

<sup>2</sup> First Progress Report of School Facilities Survey, U. S. Office of Education.

<sup>3</sup> School Facilities Survey Bulletin No. 10. Title I. P. L. 815 81st Congress January 18, 1952.



## What the Survey Is

Title I of Public Law 815 authorized a nation-wide school facilities survey, and the Congress appropriated \$3,000,000 to assist the states and territories in making the survey within their own borders. The Congress also provided a small staff in the U. S. Office of Education to supplement its School Housing Section. This staff, under the direction of Dr. Ray L. Hamon brings together the data from state surveys in a single national picture. Practically all of the 53 eligible states and territories are participating in the survey with a possibility that the others will later join in the process.

The first phase of the Survey is a study of three things: (1) existing school facilities, (2) current school plant needs, and (3) financial resources currently available to meet those needs. The winter of 1951-52 was set as the "target date" for the states to complete and report on the first phase. The second phase will be devoted primarily to the development of long-range state-wide plans for programs of school construction, taking the findings of the first phase and estimated enrollment increases and converting them into state-wide school construction programs.

The survey is not a curriculum study, although it is realized that information on program trends would be required in preparing reports on needed new construction.

## Chapter II

### THE SURVEY IN IOWA

#### A. Preparing the Survey

Funds to finance state school facilities surveys are provided jointly by the Federal Government and the respective states on a matching basis. The Iowa Legislature approved the survey project for the three-year period set up to complete it, and provided the necessary funds to match the \$47,600 granted by the Federal Government.

The Department of Public Instruction was allowed to initiate the study and inasmuch as a new area or field had been added to the Division of Administration and Finance on January 1, 1951, that of Plant Facilities, it became the duty of the supervisor of this section to prepare and conduct the Survey. Later in the year another supervisor was added to the staff to assist in developing procedures and securing the data connected with the Survey.

The United States Office of Education prepared a series of tables for reporting the data requested in the first phase of the study and these tables considered collectively are known as Form RSA-6. Similar forms were developed for Iowa by the Plant Facilities division with definitions and instructions included. It was planned to keep the data from rural, consolidated, and city school districts separated for compilation purposes, and to channel all the work of getting the data from schools through the respective county superintendents of schools. The forms for all the schools of each county were, therefore, contained in one package and these packages were presented and explained at the annual conference of county superintendents at Spirit Lake in June, 1951.

Included in the set of forms were some prepared on the state level for information on school lunch facilities, vocational agriculture facilities, and home economics facilities.

#### B. Survey Data and How It Was Collected

Some county superintendents set up a specific conference to discuss the survey forms. Some gave information to the town superintendents or secretaries from a previous survey that was made in 1948. Some sent the forms directly to the individual districts and requested that they be completed locally. Each county superintendent was responsible for completing data for the rural elementary schools under his jurisdiction. In practically all cases the county superintendent collected and edited the forms from his county and sent them then to the state office.

Numerous trips were made by the two Plant Facilities supervisors in the Department of Public Instruction to

conferences and to individual schools to give suggestions and advice, and in many cases to help in completing the forms. In Iowa there are many administrators who do not have clerical help and, therefore, needed special assistance in collecting data. In several schools the superintendent was spending his first year in his particular school and was not adequately informed about certain information requested on some of the forms.

Many trips and much correspondence by mail, plus numerous telephone calls were necessary before certain points were clarified and the questionnaires were stamped "completed".

Generally, the cooperation of the county superintendents was excellent, and without their assistance the Survey would have been much more difficult to complete. Praise should also be given to school superintendents, principals, and secretaries for their response to this extensive research project.

Much credit is also due Mr. Erno Jakoy in the Division of Administration & Finance who did much of the compilation of information contained on the forms sent in by the schools.

Let it be said here that as far as can be determined this was the first 100% survey that was ever conducted in the Iowa schools. Data was completed for every school district in the state, including rural schools, consolidated schools, and town and city independent schools. It also includes every closed rural school in Iowa, but this data is kept separate from that of the open schools.

#### C. Compilation of Data

The 22 tables composing the Survey are divided into four categories. Tables 1-9 constitute an inventory of existing public school facilities, Tables 10-17 indicate the existing physical plant needs, Tables 18 and 19 present the resources as they are related to school needs, and Tables S-1, S-2, and S-3 show facilities as they relate to the lunch program, vocational agriculture, and home economics.

As fast as data arrived at the central office it was entered on work sheets by members of the staff and when all schools had reported, information from these sheets was used for the final report to the U. S. Office of Education. Each report was checked with the annual report that each county sends to the Department of Public Instruction to see that there were no discrepancies in number of buildings, size of sites, enrollment figures, closed schools, kinds of districts, number of buses, number of children transported, etc.

All tabulations were broken down into four divisions;



(1) open rural elementary districts, (2) closed rural elementary districts, (3) town-city consolidated districts with high schools, and (4) a total of all districts having open schools.

The final report on the first phase of the Survey to the U. S. Office of Education was made in June, 1952 and included two sections, one of all open rural elementary schools, and the other of all open schools.

#### D. Use of the Survey

The Survey includes a careful analysis of all the school facilities of our country and will be used as a basis for future considerations.

##### 1. From the National Viewpoint:

- a. The 81st Congress passed two laws which have as their function to give financial assistance to school districts having a large increase of pupils due to defense production and industrial expansion. Public Law 874 gives financial aid to the cost of operation, and Public Law 815 to the cost of building construction in such areas.

The Survey will be used to provide information and background needed in order to establish proof for further federal assistance in affected districts.

- b. School construction, not only in Iowa, but in most of the other states, has been seriously hampered the past year because of an insufficient supply of construction steel, copper and other critical materials. As of July 1st, 1952, it looked as though there would be a considerable relaxation of these controls and then came the steel strike which lasted several weeks and resulted in the re-tightening of controls on steel. A long list of needed school buildings waits approval and authorization for construction, and the allocation of critical materials, from the National Production Authority.

The results of the Survey in the United States and territories will be used as evidence of the need for establishing a long-range priority system for materials for school building construction.

- c. "The accumulated surveys from all the states will provide factual information on school facility needs throughout the U. S. which can be used to set up an intelligent plan for meeting these needs within the framework of any mobilization effort in which the country might be engaged."<sup>4</sup>

- d. "The impact of an accumulated summary of school facility needs from each state cannot be discounted when considering federal aid to education. The Survey will highlight building construction and emphasize that if federal aid to education is forthcoming, it should be expressed in terms of assistance to building construction; thus, eliminating the possibility of federal control which might ensue if federal aid were given to help defray the cost of actual school operation or assist in the payment of teacher's salaries."

##### 2. From a State-wide Viewpoint:

- a. The Survey will furnish factual information to the state government so that intelligent leadership and adequate legislation can be provided.
- b. The Survey will inform the people of the entire state of what school facilities are available, what is adequate, and what is needed.
- c. The Survey should offer an opportunity for the school people of the state to work cooperatively toward a plan through the coming years, at least to 1959-60, for studying the needs of the public schools; to encourage local districts to develop individual school construction master plans for their own districts to at least the 1959-60 school year, and to stimulate proper organization of administrative units so that predicted needs in school facilities can be met.

##### 3. From the Viewpoint of a Local District:

- a. The Survey should awaken local citizens to the facility problems of their "home" school and should create study groups that would investigate thoroughly the needs for the future.
- b. Local newspapers could and should use Survey data to enlighten their people on school facilities and conditions and to help create an atmosphere for further study of their schools, not only from the facilities standpoint but also, in connection with problems of curriculum, teaching procedures, etc.
- c. Local groups should be cognizant of the services offered by the State Department of Public Instruction in research and help with building problems. There are now two Supervisors of Plant Facilities in this Department whose duties include school facilities surveys, and all the problems that relate to school facilities.

### Chapter III

## THE NEED FOR MORE SCHOOL BUILDINGS

#### I. The National Picture

For the past thirty years there has been a lag in providing schoolhousing needs throughout the States. Causes for this lag can be attributed to: (1) the increased secondary school enrollment following the First World War, (2) the depression years during which very little construction of any sort was done, (3) the Second World War with emphasis on defense with the result that few school buildings were constructed, and (4) the swamping of the schools with new pupils. Add to these the difficulty of financing school construction and of getting allotments

of critical materials and permission to start construction, and the gap between what is provided and what is needed grows wider day by day.

There are three principal factors that affect schoolhousing needs, (1) Population trends, (2) Educational trends, and (3) Financial trends. Let us take a look at each of these.

##### A. Population Trends

- If the people of our land believe in educational equality, then they believe that educational opportunity should be provided for every child no matter who he is or where he is.
- In 1950 the population of the continental United States was 150,697,361 persons, 63.9 percent higher

<sup>4</sup>A Report to the Governor & Legislature of the State of Michigan on the School Facilities Survey—By the Department of Public Instruction.



than it was in 1910, and nearly as high as had been predicted for 1980.

- Beginning in 1941 there has been an upward climb in the U. S. of live births which has continued through 1951 and shows no slackening at the present time. In 1946-47 the first of these children entered school and others have continued to enter each year in such quantities until schoolhouse facilities are taxed beyond capacity.

In 1952 the first of this group is entering high school with no indication there will be any let-up in the next ten years.

- There has been an improvement in average daily attendance of pupils. The average number of pupils who attended school daily in the nation increased between 1910 and 1950 from 12,827,307 pupils to 22,288,985, an increase from 72.1 percent in 1910 to 88.8 percent in 1950. The 1950 A.D.A. was the highest in the history of the public schools of the U. S.
- The migration of people from place to place causes fluctuation in enrollments and is an unpredictable factor in assessing schoolhousing needs.
- Long-term planning goes out the window in areas where war-stimulated industry springs up or where a military installation is started, and new children come into the district in droves.
- In 1940 to 1947 more than 13 million people moved from one county to another within the states, and more than 12 million moved from one state to another, perhaps the greatest internal population shift in the history of the U. S.
- The defense industry and other social and economic factors has again caused a migration from rural areas to urban centers. From 1940 to 1947 the farm population decreased 3,235,000 persons, or 12 percent of the 1940 figure.
- There is a high mobility among young parents and among elementary age children. About 28 percent of all persons 18-34 years of age, and about 21 percent of the children 1-13 years of age moved between March, 1949, and March, 1950.
- Communities from which migrants move may have vacant school space but it is useless in meeting the need because the children are no longer there. The need is where there are no adequate facilities for the children.
- Schoolhousing needs are most acute at the elementary levels because the greatest movement has been among young parents and elementary-age children.
- A decrease in infant mortality, a small revival in immigration, and a growing natural increase in population all combined, certainly means an increased population in the 1950-60 decade.
- The elementary school enrollment from 1950 to 1955 is more than twice as large as any previous actual enrollment increase occurring in any full decade during the 20th century. It means that there is a need for approximately 200,000 additional elementary classrooms to house the increase.
- The increased growth in 1950-60 will reach the high school between 1955- and 1960, carrying the total enrollment of public secondary schools to the highest figure in their history. Planning should be under way right now for facilities to house this surge of pupils into the high schools.

## B. Educational Trends

A school building is nothing more or less than a structure to cover a school program in all its aspects. A school plant is not intended for today's needs entirely but it becomes the inheritance for the next generation or two. In order to serve for forty or fifty years it must be planned carefully. A school plant can be a memorial to those who planned wisely or a monument to those whose vision was impaired by bias and poor judgment.

Before building a plant the following questions should be answered: (1) What is it expected to accomplish? (2) What is to be the structure or organization of the educational program? (3) What instructional methods will be used? (4) What uses will the community make of the plant?

- If an organizational change is made that affects the educational program, then schoolhousing needs must be adjusted to fit the new educational plan. Whether an 8-4 plan, a 6-6, a Kgn. 6-2-4, or some other type of plan is to be used, makes a great deal of difference in the type of structure to be built to house the plan.
- When rural schools close and their districts are absorbed into larger administrative units, schoolhousing needs are affected. A school plant large enough to house a satisfactory school program at a reasonable cost is fast becoming the objective throughout the nation.
- There is a growing public demand for new educational services, many of which require special housing and other special facilities more expensive than the traditional bookish programs. Vocational shops, health facilities, community rooms, lunch rooms, visual aid facilities, laboratories, guidance rooms, pre-school laboratories, junior college rooms, and even Boy Scout rooms, are now demanded in many building programs.
- Health and physical fitness programs are of national importance and call for all-weather schoolhousing on both the elementary and secondary levels, and sites of adequate size and furnished with certain basic equipment and facilities.
- Classrooms are demanded now, large enough so the children will have room to "do" things. These rooms must have better lighting and better ventilation, and must be furnished with equipment appropriate to the grade level and the program followed.
- Modern school plants should be designed to provide for community uses. A so-called community room is much a part of the "new" school. It is a room where the Farm Bureau meets, where Boy Scouts assemble, where evening classes are held, where play groups enjoy themselves, where the community library is conducted, etc.
- Many of the school plants built in 1900 or 1920 are now fast becoming obsolete, not particularly because of age, but because they are of such a design that they cannot house the modern educational program and it would be economically unsound to remodel or rehabilitate them.

## C. Financial Trends

Many school districts have not met even minimum schoolhousing needs in the past two or three decades. During the depression thirties many districts did not have funds for building purposes, and even if they did they postponed action until "times would be better." Later, a few districts matched Federal grants, but most districts still waited for better times.



Then the second World War forced further postponement of construction, and still later the Korean conflict added schools to the waiting list. Today there is a tremendous backlog of school construction, and when there is added to this the number of classrooms needed to house the increased enrollments, and the number of present buildings that are inadequate for modern school programs, the problem becomes a very serious one, undoubtedly, the greatest schoolhousing problem in all America's history.

Because of legal restrictions many school districts are not able to bond enough to build adequate housing for school needs. School construction costs have risen disproportionate to the ability to pay, which leaves many districts financially helpless to act.

There are districts that are able to build and want to build, but they are restricted because of Federal controls on steel, copper, and aluminum, and must have permission from the U. S. Government before they can start a building program.

What applies to the nation as a whole applies to each respective state which contributes to the national picture. Iowa is no exception.

## II. The Picture in Iowa

The data in Table 1 for 1930 to 1951 were furnished by the Bureau of Vital Statistics, Iowa State Department of Health.

On the basis of birth records and the fact that over 95% of children born in Iowa live long enough to start to school, the forecast to 1960 indicates that kindergarten enrollments will show a consistent increase for the next five or six years, after which they will tend toward a common level. The elementary schools will tend to grow more or less uniformly until at least 1960 with the crest being reached in 1958 or 1959.

Birth rates vary greatly in larger areas and the most severe problems of furnishing school facilities will be found in these districts.

More children will mean more teachers, larger current expenditures for operation, maintenance of schools, more classrooms, and consequently more costs.

As will be observed from a study of Table 2 and Chart No. 2, there will be a gradual increase in the number of elementary school pupils until the year 1960 after which there will be a gradual decrease. The number of kindergarten and first grade entries will start falling off in 1957-58 but this will not halt the increase in the total number of elementary pupils until 1961-62. Naturally as the lower grades become congested this wave will gradually push itself into high school. The grade enrollment problem that is confronting districts and will continue to harass them until 1960 will begin to be felt in high school enrollments in 1960-61 and will demand attention there until 1970 at least. If the present birth rate (1951-52) continues to be fairly constant over the next few years then it is reasonable to conclude that whatever housing facilities are furnished

TABLE 1

Year	Live Births	Rate per 1,000
1930	42,733	17.3
1931	41,633	16.8
1932	40,164	16.2
1933	39,575	15.9
1934	42,463	17.0
1935	41,021	16.4
1936	42,973	17.1
1937	42,369	16.8
1938	43,881	17.4
1939	43,942	17.3
1940	45,433	17.9
1941	46,825	18.4
1942	49,235	19.3
1943	48,209	18.8
1944	46,914	18.2
1945	44,497	17.2
1946	55,743	21.5
1947	63,536	24.5
1948	60,396	23.2
1949	61,765	23.6
1950	62,550	23.8
1951	66,123	25.1

(The first six months of 1952 showed the birth rate to be less than in 1951.)

TABLE 2\*

### Forecast of Iowa's Future School Enrollment

School Year	Kgn. & 1st.	2nd	3rd	4th	5th	6th	7th	8th	Total Grades	Total H. S.
1946-47	82,584	41,390	40,265	38,187	37,255	35,460	34,553	30,399	343,112	113,537
1947-48	86,449	41,249	40,467	39,443	37,498	36,251	34,969	30,232	349,462	112,748
1948-49	90,948	42,025	40,117	38,958	38,527	36,300	35,689	30,920	356,092	111,144
1949-50	86,543	45,065	40,739	38,701	37,852	36,735	35,360	33,951	354,946	111,591
1950-51	83,864	44,126	43,686	39,301	37,602	36,092	35,784	33,638	354,093	112,472
1951-52	93,224	42,940	42,776	42,144	38,185	35,854	35,157	34,041	364,321	113,227
1952-53	111,157	41,431	41,626	41,266	40,947	36,409	34,925	33,445	381,206	113,959
1953-54	115,072	52,357	40,163	40,157	40,094	39,043	35,466	33,224	395,576	113,821
1954-55	113,185	59,472	50,755	38,745	39,017	38,230	38,032	33,739	411,175	113,186
1955-56	113,998	56,296	57,652	48,963	37,645	37,203	37,240	36,180	425,117	113,299
1956-57	110,222	57,572	54,573	55,617	47,572	35,895	36,239	35,426	433,116	115,384
1957-58	103,945	57,115	55,810	52,647	54,038	45,360	34,965	34,474	438,354	117,070
1958-59	99,077	53,774	53,367	53,840	51,152	51,525	44,185	33,262	442,182	117,898
1959-60	97,076	50,799	52,129	53,413	52,311	48,773	50,191	42,033	446,725	117,160

\* Research Report No. 4 — Iowa State Education Association — August 4, 1950.

Note — This table is figured on actual births minus the average drop-out rates from grade to grade for the years 1946-47, 1947-48, 1948-49.

All figures above the broken horizontal line are predicted enrollments based on the known enrollments for 1948-49.

Between the broken line and the solid line in the table above predicted enrollments are based on actual Iowa births.



for the next 12 to 15 years will be utilized for another decade.

Considering that there will be an increase of 103,613 elementary pupils from 1946-47 to 1959-60, and that the standard of 30 pupils per classroom is used, then the Iowa schools must have 3,453 more classrooms available to house these children, and approximately 120 more classrooms to take care of the beginning increase in the high schools.

There has been a growing demand in Iowa for kindergartens and this means that more classrooms will be needed. The problem becomes more acute when figures show that the population tends to drift toward areas where industry is centered. The "fringe" areas around Des Moines, Waterloo, Cedar Rapids, and several other of Iowa's largest cities, are heavily populated with school-going children and there is difficulty in providing school facilities for these children. The fact that many rural districts are losing their children and may have school space to spare doesn't lessen the problem in the districts to which these people have migrated.

There has been a gradual closing of Iowa's one-room rural schools and the children from these schools are absorbed in town or consolidated schools. In many instances this contributes to housing difficulties and several districts have had to refuse rural children because of lack of room.

#### What Is Happening to School Districts

In 1935-36 there were in Iowa 2,812 Rural Independent School Districts and in 1950-51 there were 2,654—158 less than in 1936. There were also 608 city or Town Independent Districts in 1950-51, 38 less than in 1936. There were 965 School Township Districts or 56 less than in 1936. On the other hand there were 424 consolidated School Districts or 14 more than in 1936, which partially explains the decrease in the number of rural districts.

#### What Is Happening to Rural Schools

In 1935-36 there were 9,018 one room, rural schools opened enrolling 130,089 pupils. In 1950-51 there remained open 4,628 with 68,995 pupils enrolled. Part of this change can be attributed to a consolidation of two or more districts as is found in the increase of 166 rural schools with two or more rooms enrolling 7,962 pupils in 1935-36 to 289 such schools in 1950-51 enrolling 15,604 pupils.

In 1951 there were 3,021 closed one-room rural schools in Iowa, many of them having been idle for several years. Most of these buildings are combustible—one story, one classroom structures, on sites of one acre or less, heated by a stove, window ventilated, floor area from 400 to 800 sq. ft., some having electric lights, the majority having no water available, and all unsatisfactory plants that should be abandoned.

Children in these districts are either attending school in a consolidated district or in a town independent district close by, and are being transported in buses.

The change in rural enrollment figures does not come necessarily from a decreased birth rate but rather from a change in school organization and in better transportation facilities.

TABLE 3

Birth rates in cities usually run higher than in rural areas except where a large amount of industry is centered and then there is a tendency for laboring folks to settle outside the city where land is cheaper, rents are lower, and where there is no zoning. In Iowa there are certain city "hinterlands" that are full of young families of child-bearing age, and where the problem of establishing school facilities for school-going children is a most serious one.

#### Cities Having Birth Rates Higher Than the County (1951 Statistics)

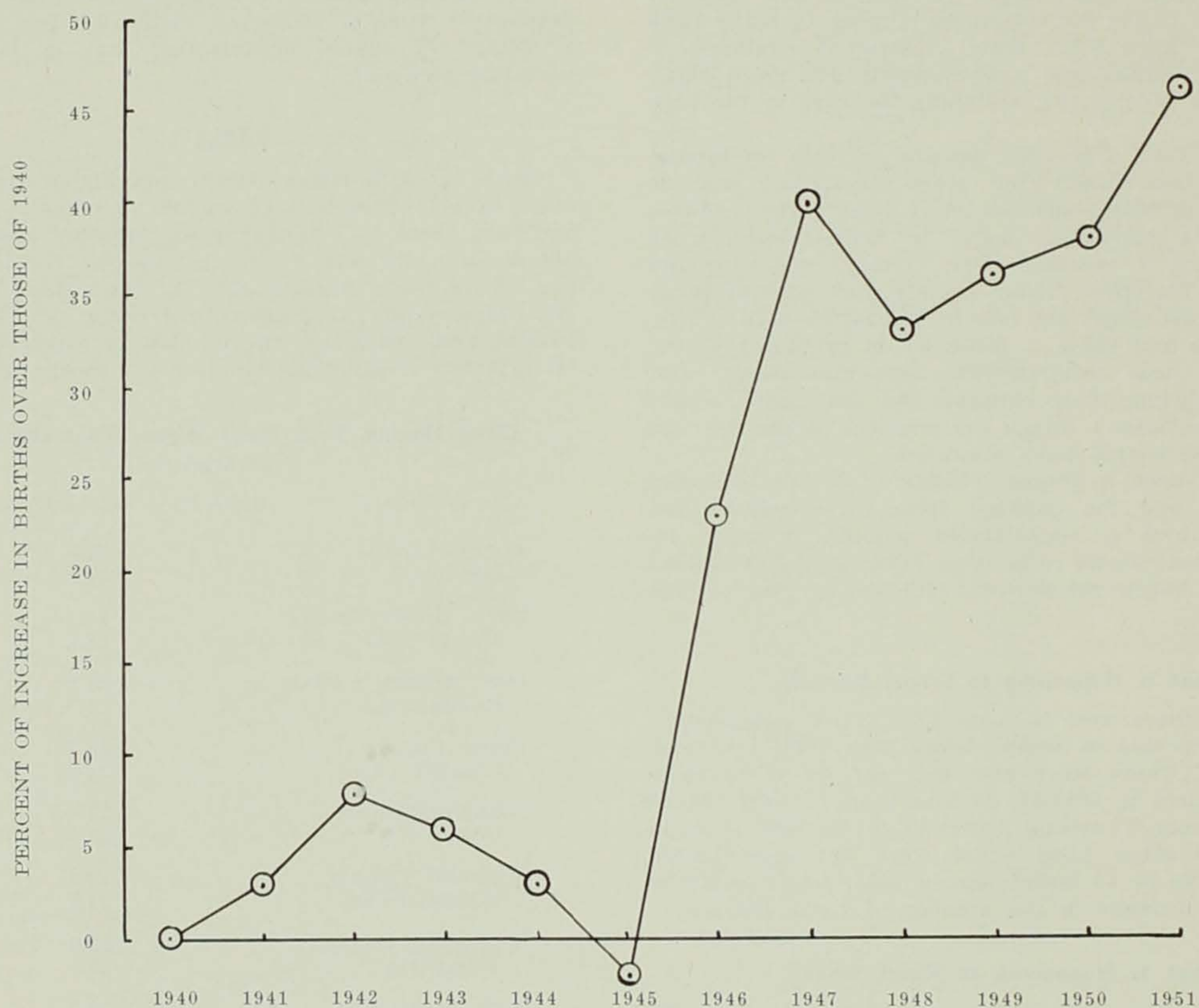
City & County	Birth Rate Per 1,000 Population
Boone County	21.5
Boone	24.2
Cerro Gordo County	26.7
Mason City	28.6
Des Moines County	23.6
Burlington	23.9
Floyd County	25.7
Charles City	26.3
Johnson County	27.6
Iowa City	29.4
Marshall County	23.6
Marshalltown	24.1
Muscatine County	22.9
Muscatine	23.7
Polk County	25.7
Des Moines	27.7
Pottawattamie County	26.5
Council Bluffs	28.2
Story County	26.0
Ames	27.0
Wapello County	24.3
Ottumwa	25.2
Webster County	27.5
Fort Dodge	29.8

Cities in which the birth rates are lower than the parent county: Cedar Rapids, Clinton, Davenport, Dubuque, Newton, Oskaloosa, Sioux City, Waterloo.



## CHART 1

Trends in the rate of live births in Iowa — 1940 through 1951.



46% more children were born in Iowa in 1951 than in 1940.

From 1946 to 1951 there was a large increase in live births. Coupled with this is the fact that infant mortality (infants under 1 year of age) decreased from 53.9 per 1,000 births in 1930 to 24.5 per 1,000 in 1950.

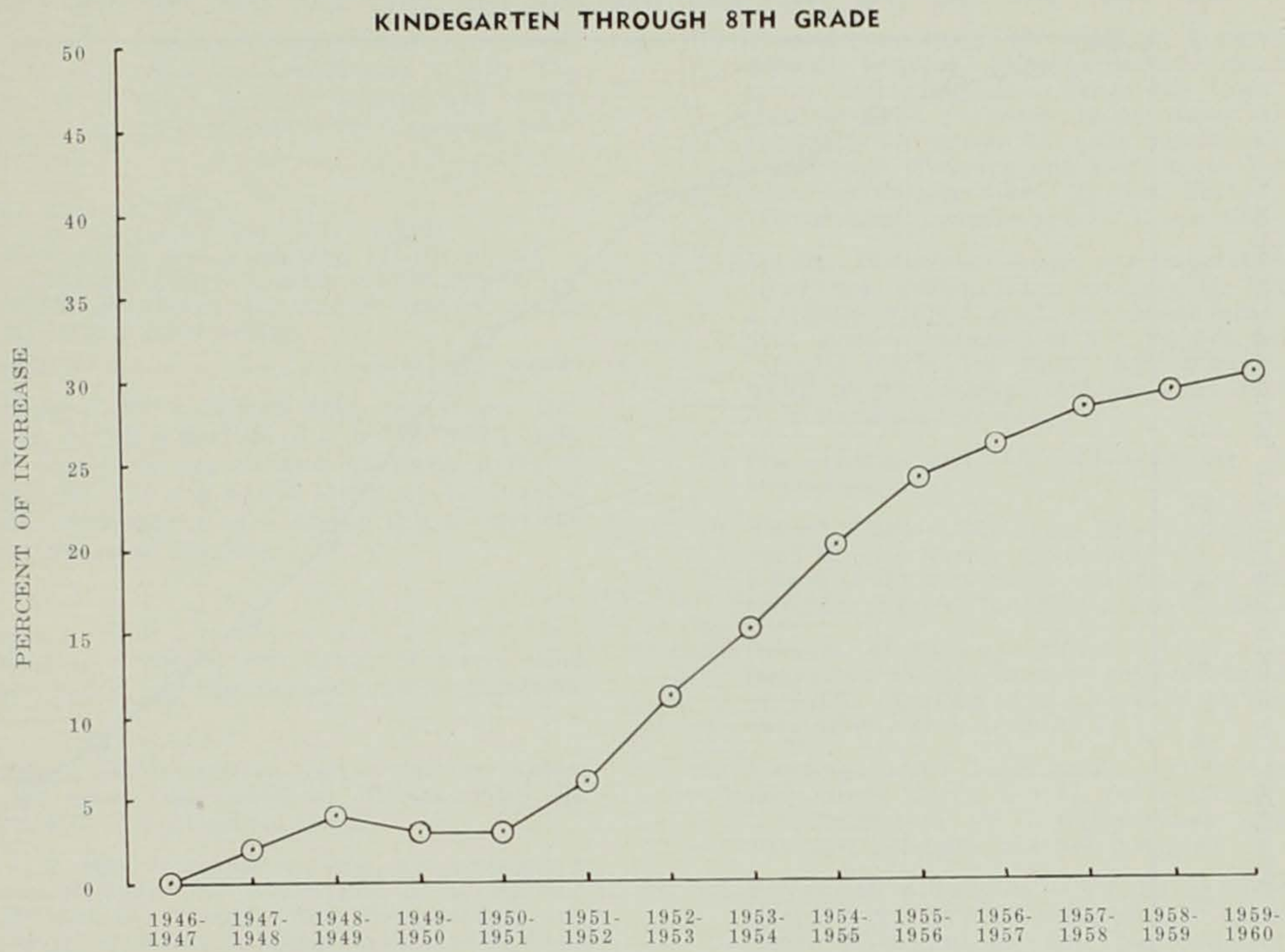
The 1946 increase started to kindergarten in the fall of 1951. The impact of 1947 will be in school in the fall of 1952.

This Chart corresponds closely with what is happening throughout the United States as a whole.



## CHART 2\*

Trend in the percentage of pupils enrolled in the public schools — actual and predicted from 1946-47 to 1959-60.

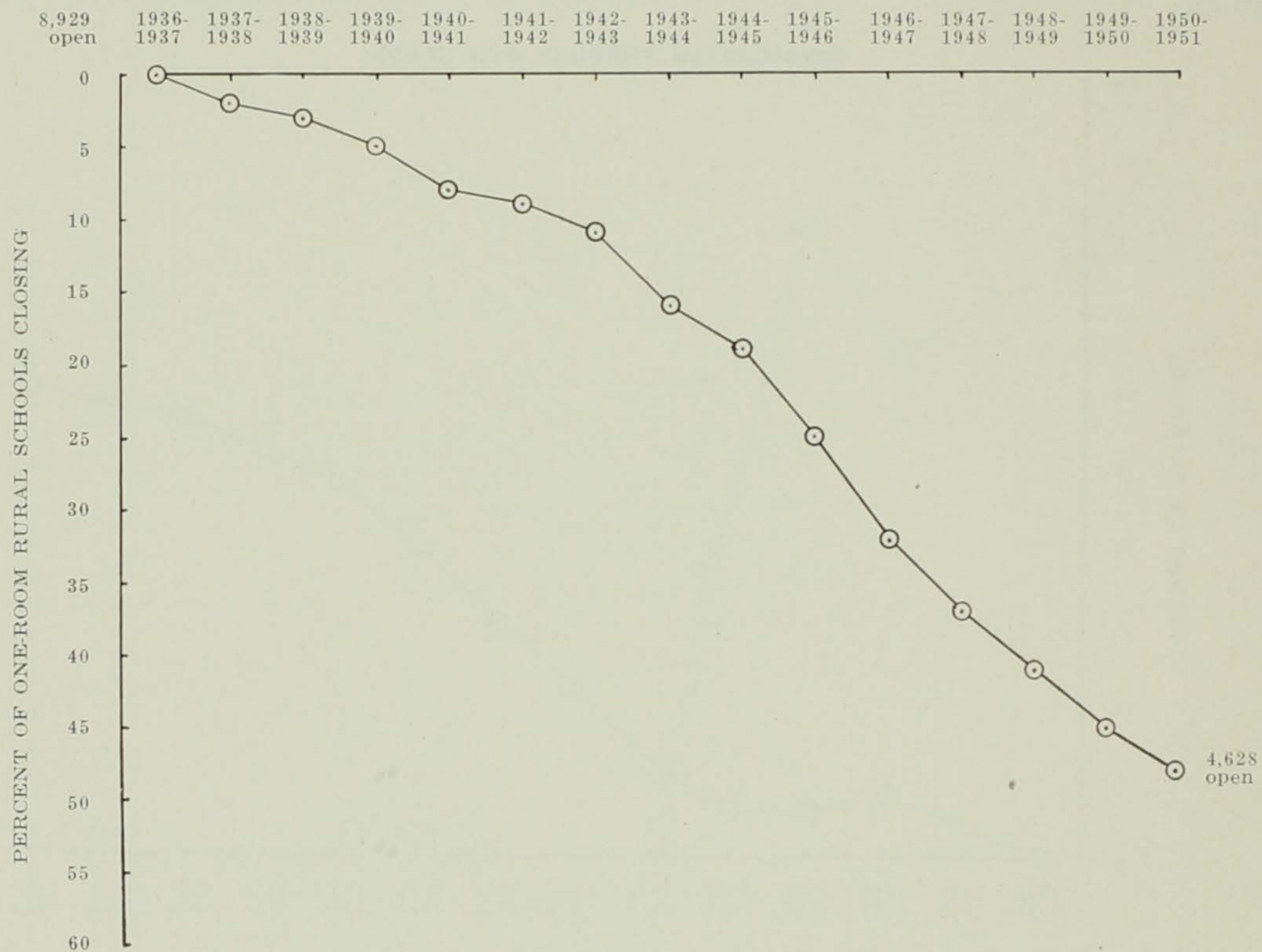


The sudden increase of births which started in 1946 begins to show up here in the 1951-52 and 1952-53 school years.

\* Taken from data on Table 2.



CHART 3

**One-room rural schools are disappearing.**



## Chapter IV

## INVENTORY OF EXISTING SCHOOL FACILITIES IN IOWA

The purpose of this chapter is to present the school housing picture in Iowa as of the school year 1950-51. The date presented cover every school district and every school building in the state except 3,021 one-room rural schools now closed.

Included are the following:

4,917 rural plants housing 83,346 pupils  
 463 elementary plants housing 128,208 pupils  
 135 secondary plants housing 67,330 pupils  
 771 combined elementary and secondary plants housing 202,176 pupils

Total — 6,286 plants ..... 481,060 pupils

It also includes 6,471 buildings used for school purposes housing all day or a portion of a day 501,059 pupils. (A pupil may attend classes in two or three different buildings during the day and would therefore be counted more than once. This results in a higher figure than the total enrollment figure of 481,060).

## DEFINITIONS

The following is a list of definitions of terms used throughout this report of the Survey unless otherwise specified:<sup>5</sup>

1. **Local School Administrative Unit** — The city, town, county, or other type of school district under the jurisdiction of a local school board.
2. **School** — A school center serving an attendance area, usually under the supervision of a principal (see definition 5). A school may accommodate any type of program or any combination of grades. Some schools occupy more than one building on the same or on separate sites.
3. **Elementary School** — A school composed of any span of grades below the secondary school, as determined by State and local practice, e. g., K-6 or 1-8. Includes kindergarten and nurse school if under direction of the local school board.
4. **Secondary School** — A school composed of any span of grades above the elementary school, including junior high schools, senior high schools, vocational schools, and grades 13 and 14 if under the direction of the local school board. For the purposes of this Survey, if two or more secondary schools are housed in the same plant, count as only one school.
5. **Combined Elementary and Secondary School** — Any combination of elementary and secondary grades occupying the same school plant. For the purposes of this Survey, count these as one "combined elementary and secondary school," rather than as two separate schools.
6. **School Building** — For the purposes of this Survey, this term means one continuous structure which may or may not be connected with other structures by passageways. The building includes plumbing, heating, ventilating, mechanical and electrical work; and lockers, cabinets and shelves which are built into the building. The cost of a building includes fees for architects, engineers, supervisors and other professional services and overhead costs in connection with planning, designing, financing, and constructing the building.
7. **Classroom** — Any room originally designed, or later suitably adapted, to accommodate some form of group instruction on a day-by-day basis and available for such purposes as of March 1, 1951; excluding such areas as auditoriums, gymnasiums, lunchrooms, libraries, and study halls. Unless otherwise specifically noted in this Survey, the term "classrooms" includes special instruction rooms.
8. **Special Instruction Room** — A laboratory, shop or other room designed and equipped for instruction in a special subject such as homemaking, industrial arts, science, music and art. Do not include as a "special instruction room" any regular classroom which is not designed and equipped for instruction in a particular subject.
9. **Site** — Land and all improvements other than structures.
10. **School Plant** — The term school plant or plant is used in this Survey to include the site, the buildings, and the equipment and furniture which constitute the physical facilities available for a school.
11. **Number of Pupils** — Unless otherwise specifically instructed in this Survey, this means the number of pupils enrolled in a school as of the reporting date after March 1, 1951.
12. **Buildings Under Construction** — Include in this category, as of March 1, 1951, (a) buildings in process of construction, (b) buildings under contract, and (c) new buildings not yet occupied.
13. **Fire-resistive Building** — A building constructed entirely of fire-resistive materials; or a building with fire-resistive bearing and partition walls, floors, stairways, and ceilings. A building of this type may have wood finish, wood or composition floor surface, and wood roof construction over a fire-resistive ceiling.
14. **Semi-fire-resistive Building** — A building of fire-resistive bearing walls, corridors, and stairways; but with ordinary construction otherwise (i.e., combustible floors, partitions, roofs, and finish).
15. **Combustible Building** — All frame; fire-resistive veneer on wood frame; or fire-resistive bearing walls, but otherwise combustible construction.
16. **Mixed Construction** — Classify as mixed, a building where one or more sections are of one type of construction and one or more sections (as additions) are of another type of construction.
17. **Story** — A basement will be counted as a story if the ceiling is nine feet or more above the highest grade level next to the classroom windows.
18. **Date of Construction** — Where a building includes one or more additions constructed at different times, use the date of construction of the original portion provided it is the major portion of the present plant.
19. **Rehabilitating and Remodeling** — As used in this Survey, these terms mean a change in structure or a major structural improvement to the building (such as changes of partitions, roof structure, or exterior walls) and general overhauling of a building or major section thereof in order to adapt the plant to continued and effective use for the school program. As used in this Survey, these terms do not include normal maintenance programs or periodic renovation.

<sup>5</sup> School Facilities Survey Bulletin No. 4, Federal Security Agency, Washington, D. C. February 14, 1951.



20. **Classification of School Plants**—For the purposes of this Survey school plants are to be classified as follows:

**S—Satisfactory.** A plant may be adjudged "satisfactory" provided it is of sufficiently sound construction and provided its educational adequacy is sufficient to warrant its continuance in use for a period of 20 or more years. If over one story in height, the structure shall be fire-resistive. Its classrooms and related spaces shall be of sizes large enough to allow the functioning of a modern educational program comprising multi-curricular activities, and to encourage the incorporation of desirable new curriculum developments as they occur. The building shall be well located and on a site sufficiently large, developed, and free from traffic hazards to permit reasonable outdoor activity. The building, including fenestration, artificial lighting, heating, toilet and water service, and flexibility of design, shall be sufficiently adequate to meet reasonable standards for the duration of its anticipated use. Plants of this class are adequately provided with equipment and furniture suitable for the school program.

**F—Fair.** This category includes school buildings which by rehabilitating and remodeling can be continued in effective service for 10 to 15 years. Plants to be classed as "fair" are structurally safe and reasonably well located. A structure in this classification will lend itself to remodeling in order to meet State and local building codes and regulations as to safety and to meet reasonable standards of educational adequacy for an expenditure commensurate with the facilities resulting from such remodeling. Examples: (1) A school plant otherwise satisfactory but with an inadequate site may be classified as "fair" provided the site can be supplemented by the acquisition of additional land. (2) If a plant is satisfactory except that classrooms are too small for modern educational programs, it may be rated as "fair" provided it is feasible to move partitions and otherwise to arrange for adequate teaching areas. (3) A plant with obsolete furniture and lacking in adequate built-in accommodations, but otherwise satisfactory, may be rated as "fair" because these deficiencies can be corrected. A plant which is structurally sound and reasonably well located may be classed as "fair" even if it has several such deficiencies, provided they can be corrected at a reasonable cost.

**U—Unsatisfactory.** An "unsatisfactory" school plant is one which should be abandoned and replaced as soon as possible. Such plants cannot be made satisfactory with any reasonable expenditure because of one or more of the following deficiencies: (1) structurally unsafe, (2) non-correctable fire hazard, (3) very poorly located with respect to school population and school organization, (4) completely inadequate site which cannot be enlarged, (5) unsatisfactory and hazardous environment, and (6) completely obsolete as to educational ade-

quacy. Most of the plants in the "unsatisfactory" category are either temporary make-shifts or superannuated structures which have long since served their period of usefulness.

21. **Area of Building**—The sum of the areas in square feet of all floors within the building perimeter at the respective floor levels. Include in total building area one-half of area of covered passageways with one or both sides open.
22. **Multi-purpose Room**—A multi-purpose room is a room used for activities not provided for elsewhere.
23. **Community Room**—A multi-purpose room is so classified when it houses mostly school classes and meetings. It becomes a community room when the general public uses it most of the time both day and night.
24. **Outside Classrooms**—If shops, music, lunch room, vocational classes, etc., are housed in a separate building, built or improvised on the site, they should count as a part of the regular building, providing they were designed and built expressly for their respective uses. Do not confuse this with Sub-Standard or Non-Publicly-Owned Facilities as set up in Table 11. (See Definition 6).

In order to present a valid picture of the school facilities in Iowa, this chapter is divided into three sections and the information presented relates directly to the schools included in the category of each respective section. Inasmuch as there will be a similarity of tables and graphs, a footnote is included at the bottom of each graph and chart so that the reader can quickly turn to other sections for comparisons.

#### Section A — Rural Elementary Schools

These are all the elementary schools of each county that are directly under the jurisdiction of the County Superintendent of Schools. They are better known as rural schools.

#### Section B — Town and Consolidated Schools

These schools include separate elementary schools, separate secondary schools, and combined schools of both elementary and secondary grades. They include junior colleges and vocational schools when under the direction of the local School Board. They are administered and supervised by either a superintendent or a principal. The majority of Iowa high schools are housed in buildings with the elementary grades. These will be known in this report as combined schools.

#### Section C — All Schools

These are all the public schools thrown into one group. (It includes Section A and Section B above). It is the data from this group that are used by the U. S. Office of Education to make comparisons with those of other states and territories, and combining them into a whole for study by the Congress.



SECTION A

# Rural Elementary Schools



## SECTION A — RURAL ELEMENTARY SCHOOLS

(Does not include closed schools)

4,917 plants housing 83,346 pupils and 4,918 buildings housing 83,369 pupils.<sup>1</sup>

As will be seen by Tables 4 and 5, and Chart 4, 94% of the children attending rural schools are housed in combustible buildings, 98% of which are one story in height, and 94% of which have only one classroom. Only one percent of the buildings are fireproof and five percent of them semi-fire resistive.

Only one building is three stories high but there are 118 two-story structures.

This type of construction has much to do with the factor of fire-resistance. It is generally conceded that buildings of one story in height of any kind of construction provide comparative safety from fire hazards if they have adequate fire exits. Two-story buildings should have fire-resistive exterior walls, corridors, and stairs, and adequate exit facilities. Buildings of three stories or more should be completely fireproof in order to insure safety to the children frequenting such buildings.

**TABLE 4**

**Number and percent of school buildings rated by type of construction with number and percent of pupils housed in these buildings.**

Elementary	TYPE OF CONSTRUCTION				
	Total	Fire resistive	Semi-fire resistive	Combustible	Mixed
No. of buildings .....	4,918	40	225	4,650	3
Percent of buildings ....	100	1	5	93.9	.1
No. of pupils housed ..	83,369	2,657	5,523	75,056	133
Percent of pupils housed .....	100	3.2	6.6	90	.2

See Tables 14 and 25.

**TABLE 5**

**School buildings classified as to stories with number and percent of pupils housed in these buildings.**

Elementary	One story	Two stories	Three or more	Total
No. of buildings .....	4,799	118	1	4,918
Percent of buildings ....	97.6	2.39	.01	100
No. of pupils housed ..	75,573	7,703	93	83,369
Percent of pupils housed .....	90.7	9.2	.1	100

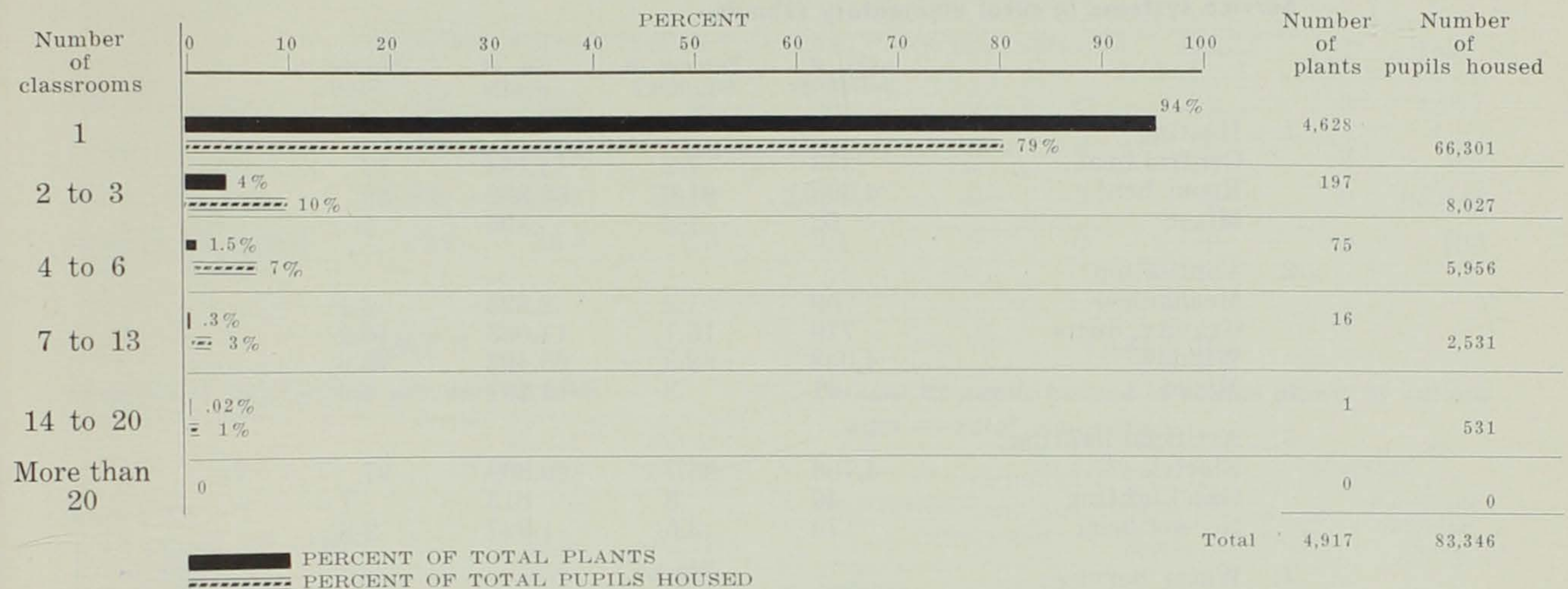
See Tables 15 and 26.

<sup>1</sup> There is one rural plant that is composed of two buildings which results in the difference in number of plants and buildings, and the number of pupils housed by each.



CHART 4

School plants and pupils accommodated according to the number of classrooms in these plants.



See Charts 6-16 and 17.  
 Tables 16 and 32.

TABLE 6

Special instruction rooms in rural elementary schools.\*

Type of special instruction room	No. of schools having	Percent of schools having	No. of such rooms	Pupil capacity	Av. No. of pupils per room	
Kindergarten .....	12	All less than .004%	12	349	29	
Science Laboratory ....	2		2	80	40	
Industrial arts or voc. shops .....	1		1	20	20	
Homemaking .....	2		2	40	20	
Music .....	11		11	426	39	
Art .....	0		0	0	0	
Business education ....	1		1	25	25	
Other ** .....	2		5	43	9	
General use rooms:						
Library .....	5		5	126	25	
Gymnasium <sup>1</sup> .....	14		14	1,115	80	
Auditorium .....	6		6	545	91	
Auditorium- Gymnasium <sup>1</sup> .....	7		7	1,181	169	
Cafeteria .....	15		15	816	54	
Cafetorium .....	9		9	1,174	130	
Multi-purpose Room <sup>1</sup> .....	9		11	355	32	
Medical suite .....	9	9	380	42		
Other** .....	1	1	5	5		
General facilities:						
Bus garages .....	17					
Maintenance shops ..	2					

There are few special rooms in rural schools for classes or activities other than regular classwork. It is in the schools of more than one classroom that spaces designed for music, physical education, lunch programs, science, etc., are found. As will be observed from Table 6, very few children in rural schools have access to any special spaces except the recitation room and the school yard outside. For example, out of 4,917 rural schools only 21 of them have facilities for physical education, 24 of them have lunch rooms, 5 have libraries and 11 have music rooms.

See Charts 7, (Sections A, B, C, D), 13 and 14.

Tables 17 (Sections A, B, C, D), and 27.

\* A special Instruction Room is a room which is specifically designed and equipped for instruction in a special subject.

\*\* "Other" rooms include such rooms as audio-visual aid rooms, swimming pools, rooms for handicapped children, etc.

<sup>1</sup> The capacity of a gymnasium is measured in terms of the largest class that can be held at any one time. The pupil capacity of a multi-purpose room is the greatest number of pupils who may be satisfactorily accommodated in any one activity for which the room is used.



**TABLE 7**  
**Service systems in rural elementary schools.**

	No. of buildings	Percent of buildings	No. of pupils	Percent of pupils
1. Heating:				
Central heat .....	353	7.2	14,144	17
Room heat .....	4,503	91.6	68,332	82
Mixed .....	62	1.2	893	1
2. Ventilation:				
Mechanical .....	59	1.2	2,623	3.1
Gravity ducts .....	770	15.7	14,063	16.9
Window .....	4,048	82.3	65,492	78.6
Mixed .....	41	.8	1,191	1.4
3. Artificial lighting:				
Electric .....	4,708	95.7	80,809	97.
Gas Lighting .....	40	.8	613	.7
No. artificial .....	170	3.5	1,947	2.3
4. Water Service:				
Pressure .....	284	6	14,861	17.8
Pump on site .....	2,763	56	42,404	50.9
No. water on school grounds .....	1,871	38	26,104	31.3
5. Toilets:				
Indoor flush .....	176	3.6	9,706	11.6
Indoor other .....	492	10.0	8,481	10.2
Outdoor privy .....	4,240	86.2	65,055	78.0
No provisions .....	10	.2	127	.2
6. Sewage disposal:				
Municipal connections ....	29	.6	2,493	3
School-owned septic tanks .....	490	10.0	13,443	16
No disposal system .....	4,399	89.4	67,433	81
7. Washing facilities:				
Hot and cold water in wash basins .....	83	1.7	5,916	7
Cold water only .....	870	17.7	18,305	22
Showers for general use .....	10	.2	622	.7
No. fixed washing facilities .....	3,965	80.6	59,148	71
4,918 Plants    83,369 Pupils See Tables 18, 19 and 29.				

The following facts concerning rural elementary schools merit special attention:

1. There are 4,708 schools enrolling 80,809 pupils having artificial illumination. This shows that most Iowa areas have access to electricity and 97% of the schools are electrically lighted.
2. There are 1,871 schools enrolling 26,104 pupils that have no water available on the school grounds. About 56% of the schools have hand-operated pumps on the school sites. Only 284 schools have pressure water systems.
3. 4,240 schools enrolling 65,055 pupils, or 86% of all

the rural schools have outside toilets. In one county practically every rural school has an indoor toilet with pressure water, but this is the exception as there are only 176 such schools in the state.

4. 89% of the schools have no type of a sewage disposal system, and 81% have no fixed washing facilities.

It will be observed in comparing Table 7 with similar tables under Town & Consolidated School Districts that they have a higher proportion of features ordinarily considered desirable than do the rural districts that maintain elementary schools only.



TABLE 8

Number of schools and pupils per acre of site — rural elementary schools.

Rural elementary	AREA OF SITE — ACRES								Total
	Less than 1	1 to 2.9	3 to 4.9	5 to 9.9	10 to 14.9	15 to 24.9	25 to 50	Over 50	
No. of schools .....	577	4,237	63	40	0	0	0	0	4,917
Percent of schools .....	11.7	86.2	1.3	.8	0	0	0	0	100
No. of pupils .....	9,849	68,751	2,148	2,598	0	0	0	0	83,346
Percent of pupils .....	11.8	82.5	2.6	3.1	0	0	0	0	100

TABLE 9

Number of rural pupils per acre of site.

	No. of schools	No. of pupils
Less than 10 pupils per acre .....	918	8,272
10 to 24.9 .....	3,397	52,420
25 to 49.9 .....	3,506	14,432
50 to 74.9 .....	60	3,365
75 to 99.9 .....	12	723
100 to 149.9 .....	14	1,803
150 to 199.9 .....	5	1,096
200 to 250 .....	2	458
Over 250 .....	3	777
Total .....	4,917	83,346

3 Schools have over 250 pupils per acre.

21 Schools have 100 to 250 pupils per acre.

72 Schools have 50 to 99.9 pupils per acre.

4,821 Schools have less than 50 pupils per acre.

Tables 8 and 9 tend to do two things: To show the size of school sites and the number of pupils per acre of site. Only 103 rural schools are on sites of three acres or more and none of them are on sites of ten acres or more. 98% of the schools have sites of less than 2.9 acres, with 94% of all pupils attending these schools. The best authorities in school site planning recommend a minimum site of five acres.

See Tables 19, 30, and 31.

TABLE 10

Percent of pupils housed in school plants of various ages — rural elementary.

Constructed	PLANTS		PUPILS	
	No. of plants	Percentage of total plants	No. of pupils	Percentage of total pupils
Before 1900	3,708	75.4	61,005	73.2
1900-1919	643	13.1	12,440	14.9
1920-1929	316	6.4	5,044	6.1
1930-1939	198	4	3,105	3.7
1940-1944	28	.5	534	.6
Jan. 1945 to March 1951	24	.6	1,218	1.5
Total	4,917	100	83,346	100

This Table indicates that over 75% of Iowa's rural schools were constructed before 1900, and 88% before 1920. School buildings are supposed to have normal usefulness for 30 years, but over 73,000 of Iowa's rural children are attending school in plants that are either past their stage of usability or are in their final stages. Seldom does one hear of a "new" rural school.

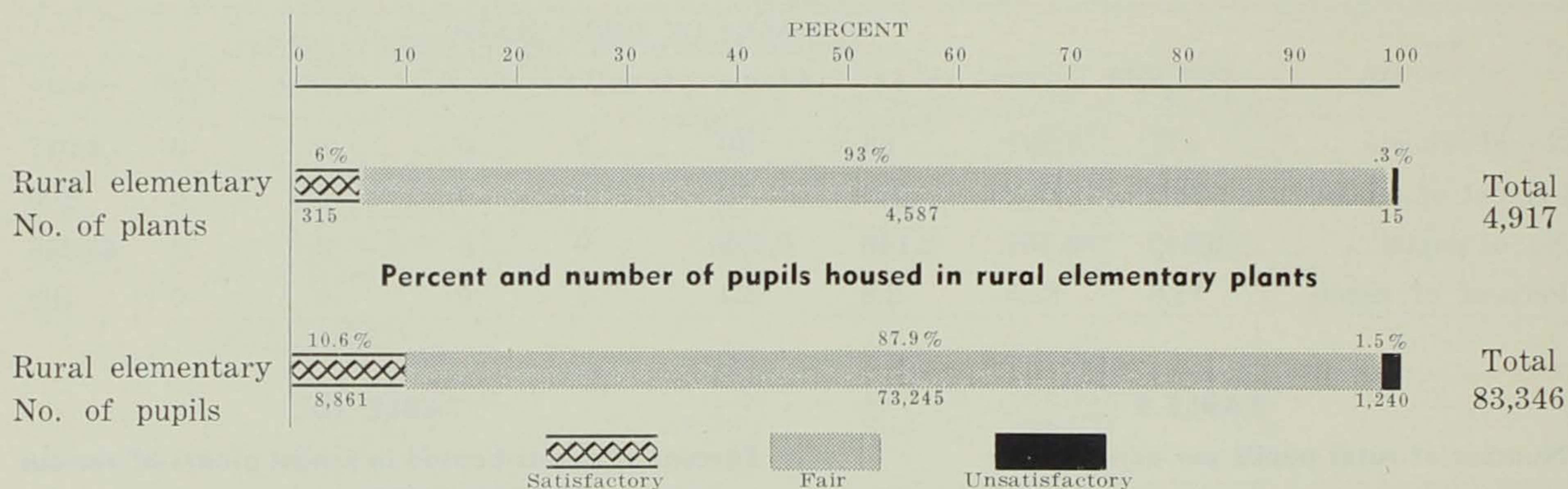
See Charts 8 (Sections A, B, C, D) and 15.

Table 20 (Sections A, B, C, D).



CHART 5

## Rating of rural school plants.



See list of Definitions for meaning of satisfactory, fair, and unsatisfactory as applied to school plants.

On the basis of criteria which are usually used in rating buildings such as location, structural stability, educational adequacy, fire safety, essential features of safety, and other pertinent factors, over 93% of all rural schools were con-

sidered in Fair condition even though a large majority of them were over 50 years of age. These schools were rated by county superintendents who evidently were not willing to condemn their inadequacy even though some fell far below the standards set up by school building authorities.

See Charts 9, 10 and 18.

TABLE 11

## Rural classrooms distributed according to size and pupil load.

Number of pupils per classroom	Less than 400 sq. ft.	400-600 sq. ft.	600-700 sq. ft.	700-800 sq. ft.	800-900 sq. ft.	Over 900 sq. ft.	Total No. of classrooms	Percent
Under 20 .....	288	1,487	1,177	1,025	427	167	4,571	83.15
21-30 .....	39	193	176	163	104	88	763	13.9
31-40 .....	3	18	29	38	23	26	137	2.5
41-50 .....	0	6	6	7	1	2	22	.4
Over 50 .....	0	0	1	2	0	0	3	.05
Total .....	330	1,704	1,389	1,235	555	283	5,496	100
Percent .....	6.0	31.0	25.3	22.5	10.1	5.1	100	

This table includes all the classrooms in all rural school plants, whether they are in regular school buildings or in rented quarters outside of school buildings or in makeshift quarters within the school buildings, or in barracks or other buildings not designed for school use.

Table 11 shows 83% of all rural classrooms as having under 20 pupils enrolled. The National Council on Schoolhouse Construction recommends elementary classrooms of an area of at least 1,000 sq. ft. Only 5% of Iowa's rural

classrooms approximate this standard, while 6% have an area of less than 400 sq. ft.

The category of 400-800 sq. ft. contains approximately 79% of all rural classrooms, with the most frequent size occurring in the 400-600 sq. ft. group.

Only 38 classrooms out of a hundred are large enough for modern equipment and suitable instruction.

See Tables 21 and 34.



TABLE 12-A

Number and percent of pupils per classroom in satisfactory and fair rural school plants.

Number of pupils per classroom	Schools	Percent of schools	Number of classrooms	Percent of classrooms
Under 20 .....	4,301	87.7	4,684	85.2
21-30 .....	516	10.5	660	12.0
31-40 .....	68	1.4	127	2.3
41-50 .....	14	.3	25	.4
Over 50 .....	3	.06	3	.05
Total.....	4,902	—100	5,499	—100

TABLE 12-B

Percent of classrooms having daily loads within certain limits.

	0-20	21-30	31-40	41-50	Over 50	Total
No. of schools	4,301	516	68	14	3	4,902
Percent of schools	87.7	10.5	1.4	.3	.06	—100
No. of classrooms	4,684	660	127	25	3	5,499
Percent of classrooms	85.2	12	2.3	.4	.05	—100

This does not include 20 rural school plants that are rated as unsatisfactory housing 1,396 pupils. Tables 12-A & 12-B are further tabulations from Table 11 and are self-explanatory.

TABLE 13

Use of sub-standard or non-owned facilities in rural schools.

Type of facility	Number of schools	Number of pupils
1. In rented quarters or other facilities outside of school buildings .....	4	123
2. In school-owned barracks buildings or similar structures not designed for school use .....	0	0
3. In makeshift quarters in buildings designed for permanent school use .....	1	33
4. In school plants which should be abandoned .....	15	1,240
5. Total less duplications ..	20	1,396

1,396 rural pupils are going to school in quarters that are sub-standard. The purpose of this Table is to show replacement needs; and it will be noted that out of 20 listings that 15 of them are school plants which should be abandoned.

Four schools involving 166 pupils were running double sessions, with some of the pupils going to school in the forenoon and some in the afternoon. No rural child was denied educational opportunities because of lack of space.

See Tables 23 and 25.







## SECTION B

# Town and Consolidated Schools



## SECTION B — TOWN AND CONSOLIDATED SCHOOLS

This Section includes all public schools other than rural elementary schools covered in Section A. It covers Elementary, Secondary, and Combined Elementary and Secondary Schools, as described in the list of Definitions set out at the beginning of Chapter IV. In this group are:

463 Elementary Schools enrolling	128,208 pupils
135 Secondary Schools enrolling	67,330 pupils
771 Combined Schools enrolling	202,176 pupils
Total 1,369 Plants	397,714 pupils
It also includes:	
487 Elementary buildings used all or part of a day by	129,944 pupils

157 Secondary buildings used all or part of a day by	72,436 pupils
909 Combined buildings used all day or part of a day by	215,310 pupils
Total 1,553 Buildings	417,690 pupils

It must be kept in mind when one is reviewing this Survey that there is a difference between a Plant and a Building. A Plant includes the site, the buildings, and the equipment and furniture which make up the facilities for a school, while a Building may be one of several buildings that constitute a Plant; therefore there are many more Buildings than Plants to be considered.

TABLE 14

Number and percent of school buildings rated by type of construction with number and percent of pupils housed in these buildings — (town and consolidated schools).

	Total	TYPE OF CONSTRUCTION			
		Fire resistive	Semi-fire resistive	Combustible	Mixed
Elementary:					
No. of buildings.....	487	188	133	127	39
Percent of buildings....	100	39	27	26	8
No. of pupils housed....	129,944	59,844	32,883	25,181	12,036
Percent of pupils housed .....	100	46	26	19	9
Secondary:					
No. of buildings.....	157	96	43	14	4
Percent of buildings....	100	61	27	9	3
No. of pupils housed....	72,436	51,546	14,096	3,736	3,058
Percent of pupils housed .....	100	71	20	5	4
Combined:					
No. of buildings.....	909	392	326	109	82
Percent of buildings....	100	43	36	12	9
No. of pupils housed....	215,310	106,441	76,858	9,406	22,605
Percent of pupils housed .....	100	49	36	4	11
Total schools:					
No. of buildings.....	1,553	676	502	250	125
Percent of buildings....	100	44	32	16	8
No. of pupils housed....	417,690	217,831	123,837	38,323	37,699
Percent of pupils housed .....	100	52	30	9	9

See Tables 4 and 25.

As will be observed by Table 14, 39% of all Elementary buildings of this group, 61% of all Secondary buildings, and 43% of all Combined buildings, are fire-resistive. In other words 676 buildings out of a total of 1,553, or 44% are fire resistive. These buildings house 52% of all the pupils enrolled. If semi-fire resistive buildings are considered, or buildings with fireproof walls, corridors, and stairways, but combustible otherwise, then it can be seen that the majority of pupils attend school buildings 76% of which are fairly safe from fire hazards.



TABLE 15

**School buildings classified as to stories with number and percent of pupils housed in these buildings — (town and consolidated schools).**

	One story only	Two stories	Three or more stories	Total
Elementary:				
No. of buildings.....	79	315	93	487
Percent of buildings....	16	65	19	100
No. of pupils housed....	10,730	86,904	32,310	129,944
Percent of pupils housed .....	8	67	25	100
Secondary:				
No. of buildings.....	20	61	76	157
Percent of buildings....	13	39	48	100
No. of pupils housed....	4,079	19,608	48,749	72,436
Percent of pupils housed .....	6	27	67	100
Combined:				
No. of buildings.....	152	465	292	909
Percent of buildings....	17	51	32	100
No. of pupils housed....	14,758	112,394	88,158	215,310
Percent of pupils housed .....	7	52	41	100
Total schools:				
No. of buildings.....	251	841	461	1,553
Percent of buildings....	16	54	30	100
No. of pupils housed....	29,567	218,906	169,217	417,690
Percent of pupils housed .....	7	52	41	100

See Tables 5 and 26.

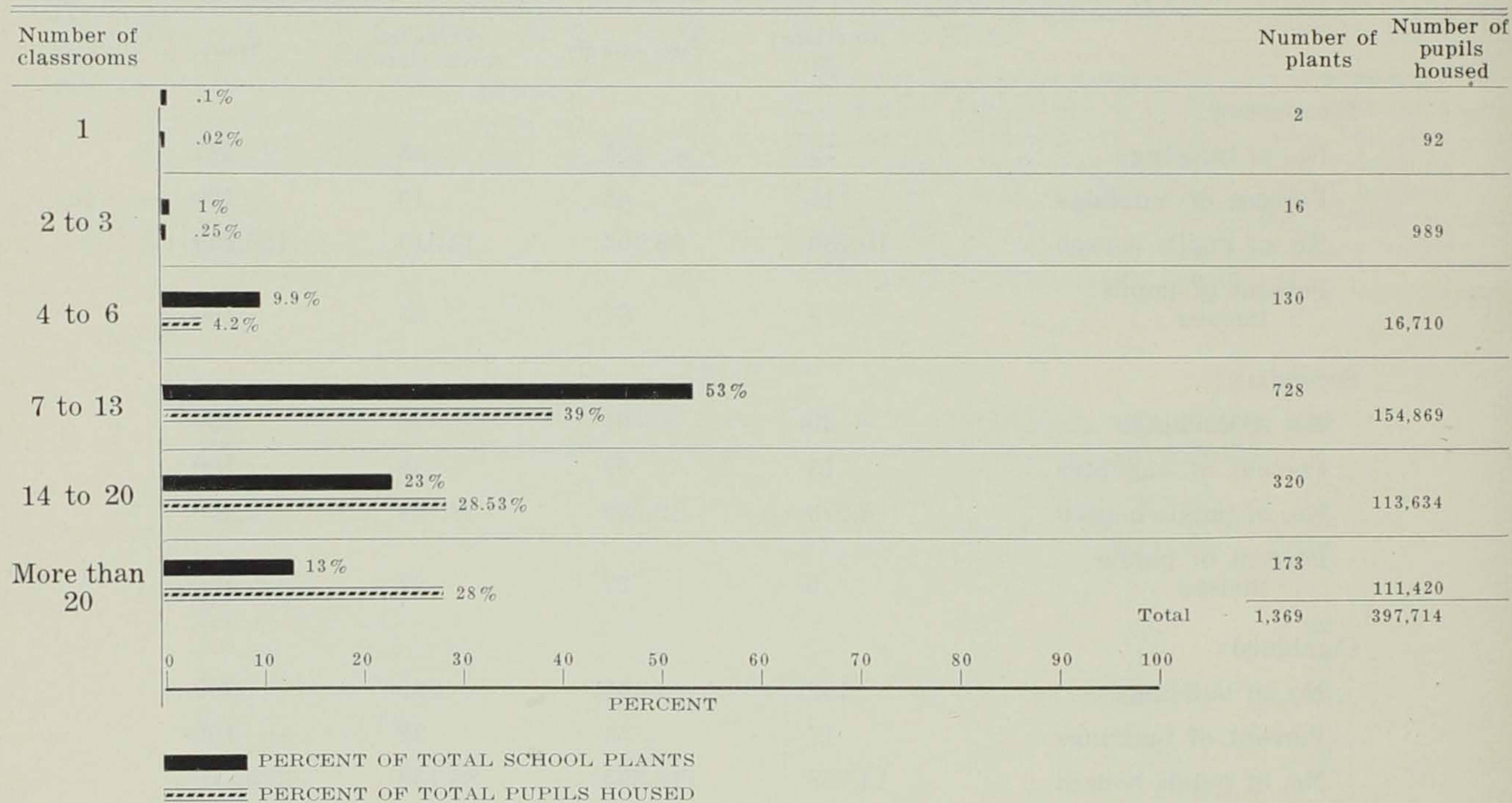
From a study of Tables 14 and 15 it would seem that the typical school building of this group would be fairly well protected against fire and would be two stories in height. The only exception would be in the secondary field where 48% of all buildings are three stories high, while 39% are two stories high.

The modern trend is toward one-story buildings.



CHART 6

Schools plants and pupils accommodated according to the number of classrooms in these plants — (town and consolidated schools).



See Chart 4.

Table 16 and Chart 6 try to tell the same story. There are only two plants that have a one-classroom structure. Sixteen plants have from 2 to 3 classrooms, 130 have 4 to 6 classrooms, and the majority of plants or 728 out of 1,369, house from 7 to 13 classrooms. Yet it can be seen that although 53% of all plants house 7 to 13 classrooms yet as far as pupils are concerned only 39% go to schools of this size. The majority of pupils attend classes in structures housing 14 or more classrooms. Over 56% of all children are in 36% of all plants.



TABLE 16

Percent of school plants with enrollments by number of classrooms — (town and consolidated schools).

Type of school plant	NUMBER OF CLASSROOMS						Total
	1	2-3	4-6	7-13	14-20	More than 20	
Elementary:							
Number of plants.....	1	16	84	253	85	24	463
Percent of total plants.....	—1	3	18	55	18	5	100
Number of pupils housed.....	25	989	11,273	65,112	36,541	14,268	128,208
Percent of pupils housed....	.02	1	9	51	28	11	100
Secondary:							
Number of plants.....	0	0	10	33	30	62	135
Percent of total plants.....	0	0	7	24.5	22.5	46	100
Number of pupils housed.....	0	0	886	5,791	12,034	48,619	67,330
Percent of pupils housed....	0	0	1	9	18	72	100
Combined:							
Number of plants.....	1	0	36	442	205	87	771
Percent of total plants.....	—1	0	5	57	27	11	100
Number of pupils housed.....	67	0	4,551	83,966	65,059	48,533	202,176
Percent of pupils housed....	—1	0	2	42	32	24	100
Total schools:							
Number of plants.....	2	16	130	728	320	173	1,369
Percent of total plants.....	.1	1	9	53	23	13	100
Number of pupils housed.....	92	989	16,710	154,869	113,634	111,420	397,714
Percent of pupils housed....	.03	.3	4	39	28.5	28	100



**TABLE 17**  
**Special instruction rooms in town and consolidated schools.\***

**A**  
**ELEMENTARY SCHOOLS**  
**(463 Schools)**

Type of special instruction room	No. of schools having	Percent of all Elem. schools having	No. of such rooms	Pupil capacity	Average No. of pupils per room
Kindergarten .....	375	81	445	13,324	30
Science laboratory .....	16	3	17	568	33
Industrial art or vocational shops .....	17	3	18	365	20
Homemaking .....	10	2	13	257	20
Music .....	136	29	144	5,802	40
Art .....	80	17	80	2,443	30
Business education .....	2	.4	2	39	19
Other** .....	14	3	16	388	24
General use rooms:					
Library .....	79	17	81	2,566	32
Gymnasium <sup>1</sup> .....	80	17	82	3,146	38
Auditorium .....	86	19	86	18,658	217
Auditorium—Gymnasium <sup>1</sup> .....	67	14	68	2,380	35
Cafeteria .....	41	9	43	5,487	128
Cafetorium .....	5	1	5	1,020	204
Multi-purpose room <sup>1</sup> .....	65	14	84	5,017	60
Community room.....	32	7	32	2,610	82
Medical suite .....	119	26	125	660	5
Other** .....	16	3	18	332	18

\* A Special Instruction Room is a room which is specifically designed and equipped for instruction in a special subject.

\*\* "Other" rooms include such rooms as audio-visual aid rooms, swimming pools, rooms for handicapped children, etc.

<sup>1</sup> The capacity of a gymnasium is measured in terms of the largest class that can be held at one time. The pupil capacity of a multi-purpose room is the greatest number of pupils who may be satisfactorily accommodated in any one activity for which the room is used.

See Charts 7 (Sections A. B. C. D.), 13 and 14.

Tables 6 and 27.

The data of Table 17 is shown in graph form in Chart No. 7. It is broken down into elementary schools, secondary schools, combined schools, and total of all schools. This is done to make comparisons. For example, one may ask: "Are our schools providing rooms for the teaching of art?" By consulting Table 17 it can be seen that only 80 elementary schools out of 463 have special rooms for art, or 17 percent of them. In the secondary group 50 percent of the schools provide art facilities, while in the combined schools only 8 percent have such rooms. A compilation of all schools indicates that only 15 percent provide art rooms.



## Special instruction rooms — continued:

B  
SECONDARY SCHOOLS  
(135 Schools)

Type of special instruction room	No. of schools having	Percent of all Sec. schools having	No. of such rooms	Pupil capacity	Average No. of pupils per room
Science laboratory .....	115	85	234	6,248	27
Industrial art or vocational shops .....	117	87	276	6,083	22
Homemaking .....	119	88	244	4,477	18
Music .....	105	78	180	8,230	46
Art .....	67	50	98	2,240	23
Business education .....	101	75	219	6,162	28
Other .....	9	6	10	485	49
General use rooms:					
Library .....	100	74	105	7,550	72
Gymnasium .....	90	67	121	4,989	41
Auditorium .....	75	56	86	59,929	697
Auditorium—Gymnasium .....	38	28	38	2,321	61
Cafeteria .....	71	53	71	14,729	207
Cafetorium .....	3	2	3	500	167
Multi-purpose room ....	18	13	20	1,175	59
Community room .....	5	4	6	277	46
Medical suite .....	46	34	59	386	7
Other .....	17	13	19	1,391	73



## Special instruction rooms — continued:

C  
COMBINED SCHOOLS  
(771 Schools)

Type of special instruction room	No. of schools having	Percent of all combined schools having	No. of such rooms	Pupil capacity	Average No. of pupils per room
Kindergarten .....	471	61	492	14,601	30
Science Laboratory .....	597	77	641	16,240	25
Industrial arts or vocational shops .....	673	87	760	14,106	19
Homemaking .....	666	86	788	13,352	17
Music .....	516	67	598	21,630	36
Art .....	63	8	73	1,913	26
Business education .....	587	76	670	12,833	19
Other .....	42	5	75	2,094	28
General use rooms:					
Library .....	298	39	322	11,161	35
Gymnasium .....	260	34	267	11,425	43
Auditorium .....	149	19	149	45,491	305
Auditorium—Gymnasium .....	477	62	480	22,675	47
Cafeteria .....	361	47	368	38,723	105
Cafetorium .....	39	5	39	5,593	143
Multi-purpose room ....	128	17	168	9,480	56
Community room .....	18	2	18	1,858	103
Medical suite .....	72	9	79	459	6
Other .....	38	5	57	2,067	36



## Special instruction rooms — continued:

D  
TOTAL ALL SCHOOLS  
(1,369 Schools)

Type of special instruction room	No. of schools having	Percent of All schools having	No. of such rooms	Pupil capacity	Average No. of pupils per room
Kindergarten .....	846	62	937	27,925	30
Science laboratory .....	728	53	892	23,056	26
Industrial art or vocational shops .....	807	59	1,054	20,554	20
Homemaking .....	795	58	1,045	18,086	17
Music .....	757	55	922	35,662	39
Art .....	210	15	251	6,596	26
Business education .....	690	50	891	19,034	21
Other .....	65	5	101	2,967	29
General use rooms:					
Library .....	477	35	508	21,277	42
Gymnasium .....	430	31	470	19,560	42
Auditorium .....	310	23	321	124,078	387
Auditorium—Gymnasium .....	582	43	586	27,376	47
Cafeteria .....	473	35	482	58,939	122
Cafetorium .....	47	3	47	7,113	151
Multi-purpose room .....	211	15	272	15,672	58
Community room .....	55	4	56	4,745	85
Medical suite .....	237	17	263	1,505	6
Other .....	71	5	94	3,790	40
General facilities:					
Bus garages* .....	504	37			
Administrative office buildings .....	17	1			
Warehouses .....	14	1			
Maintenance shops .....	38	3			
Other .....	9	.7			

\* 309 Garages were less than 2,000 sq. ft. in area.  
 180 less than 5,000 sq. ft. in area.  
 15 over 5,000 sq. ft. in area.

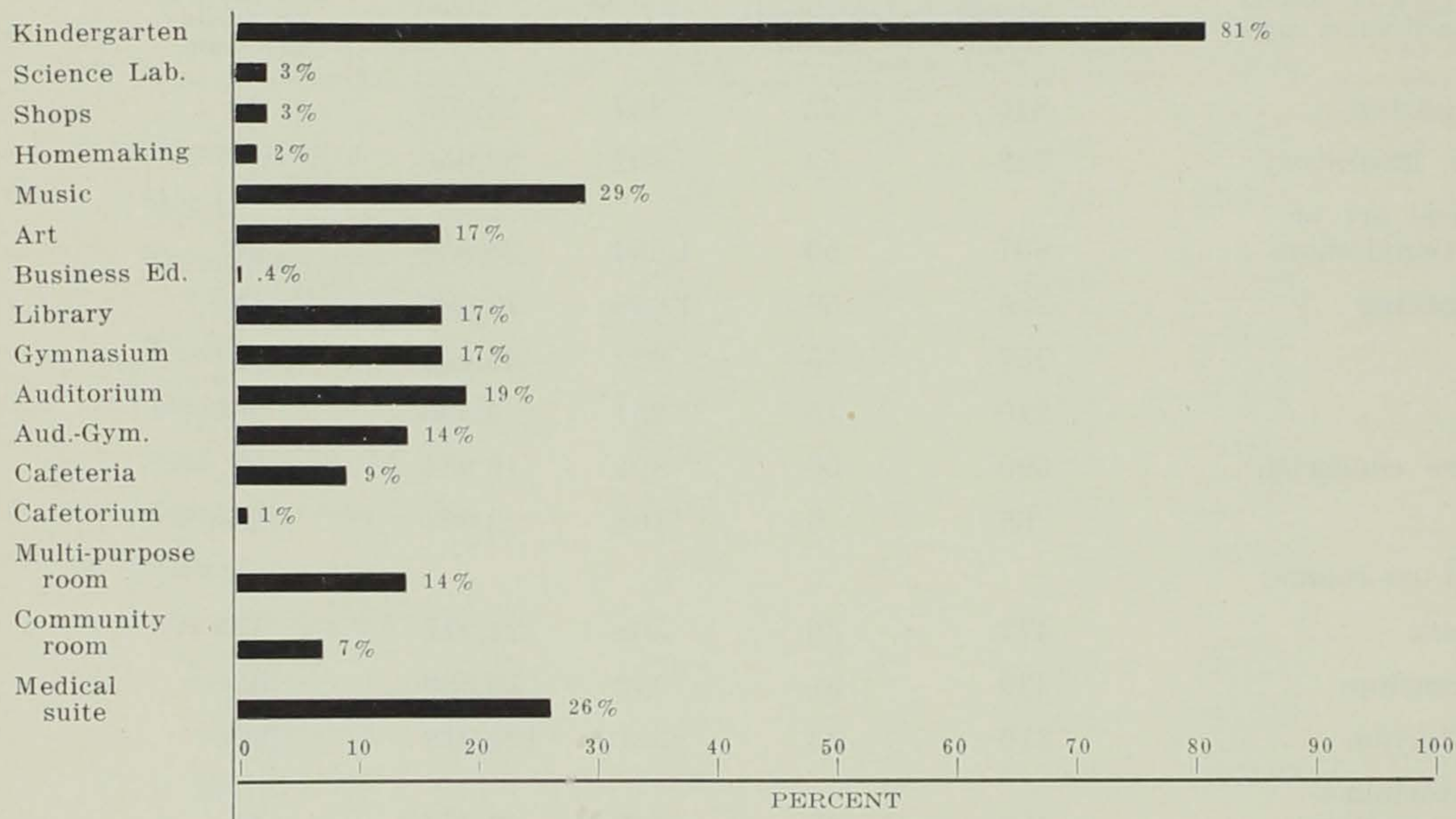


## CHART 7

Percent of elementary school plants providing certain facilities — (town and consolidated schools).

(463 Schools)

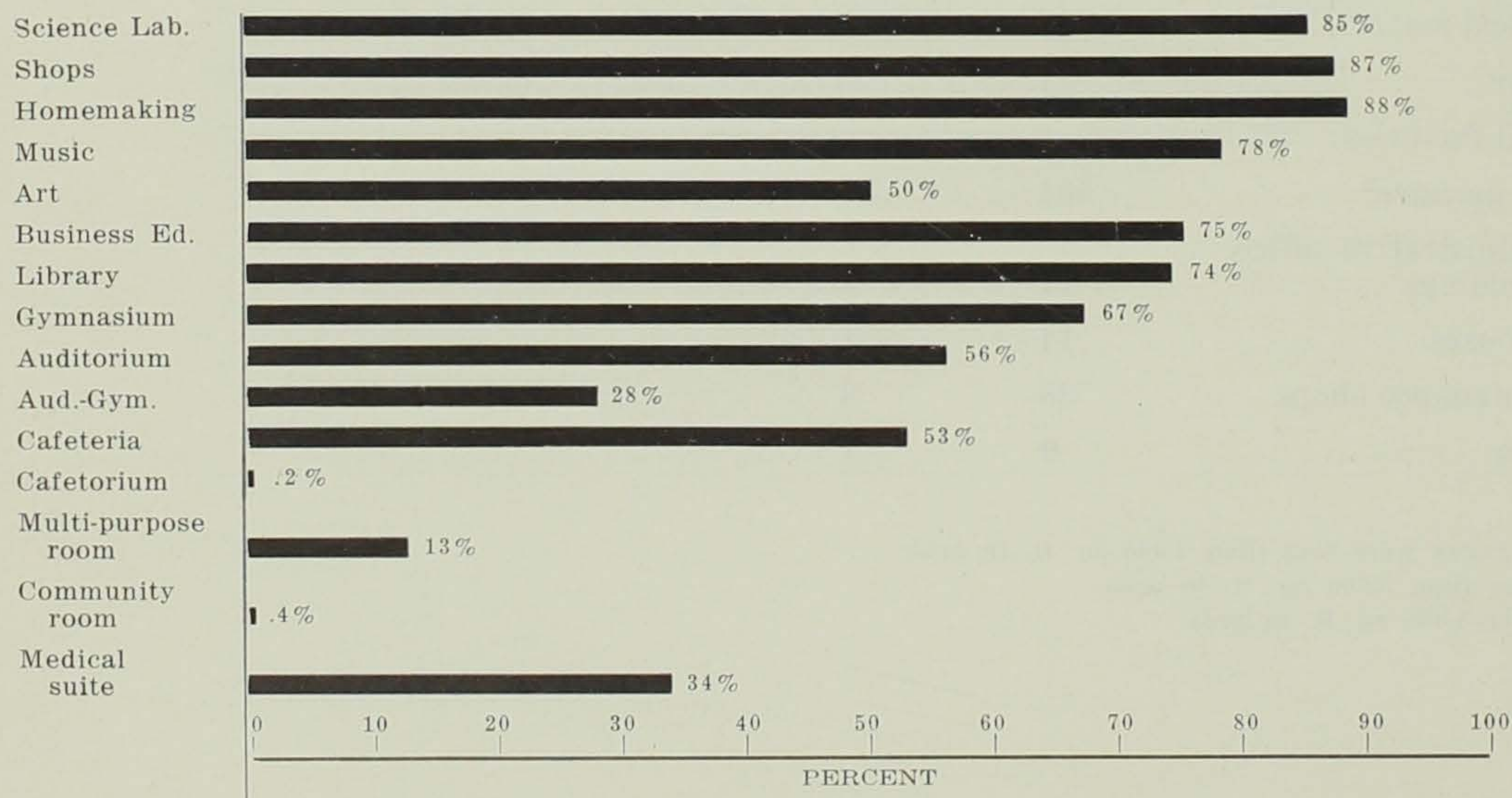
A



Percent of secondary school plants providing certain facilities.

(135 Schools)

B

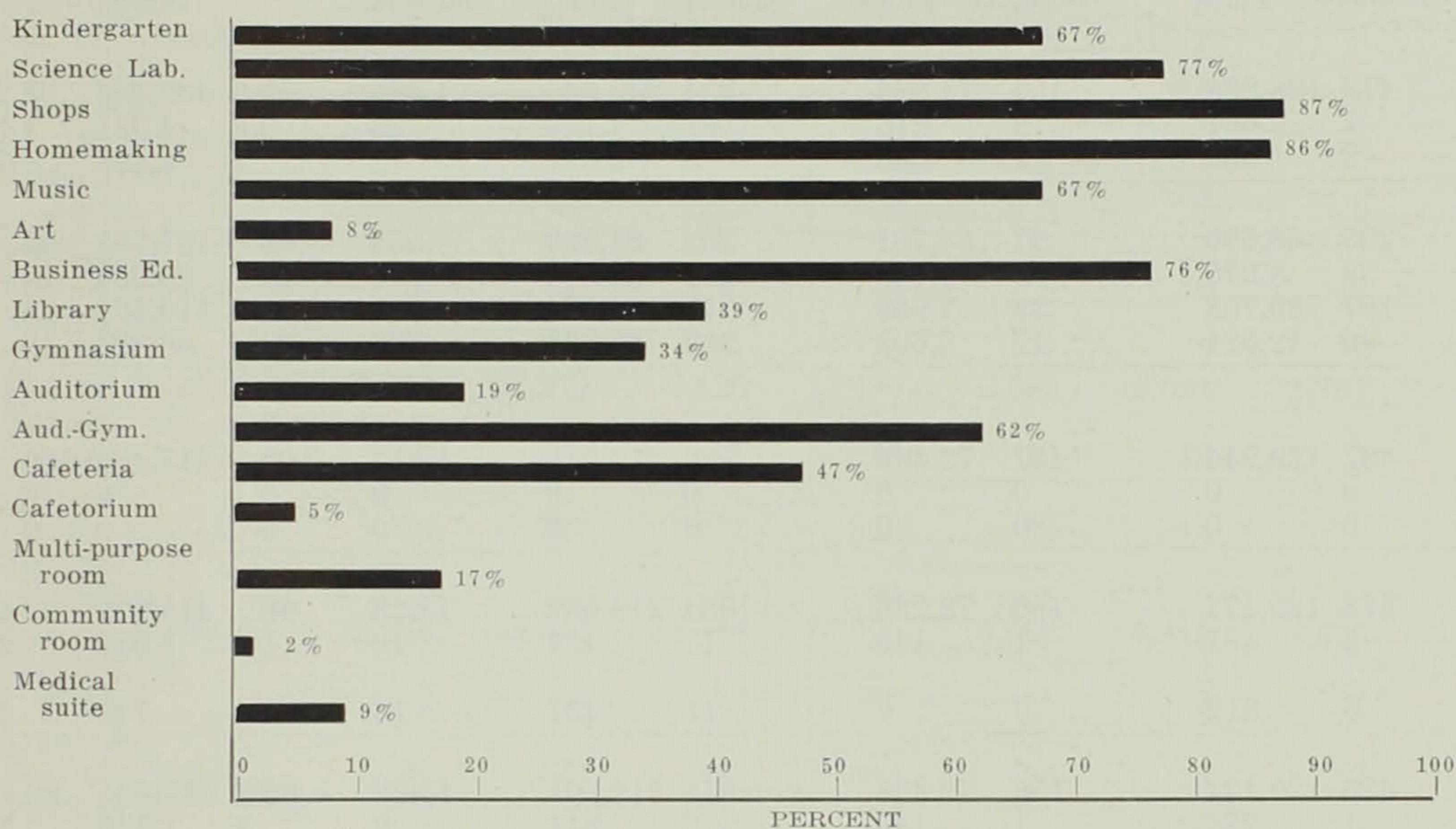




## Percent of combined school plants providing certain facilities.

(771 Schools)

C



## Percent of all school plants providing certain facilities.

(1,369 Schools)

D

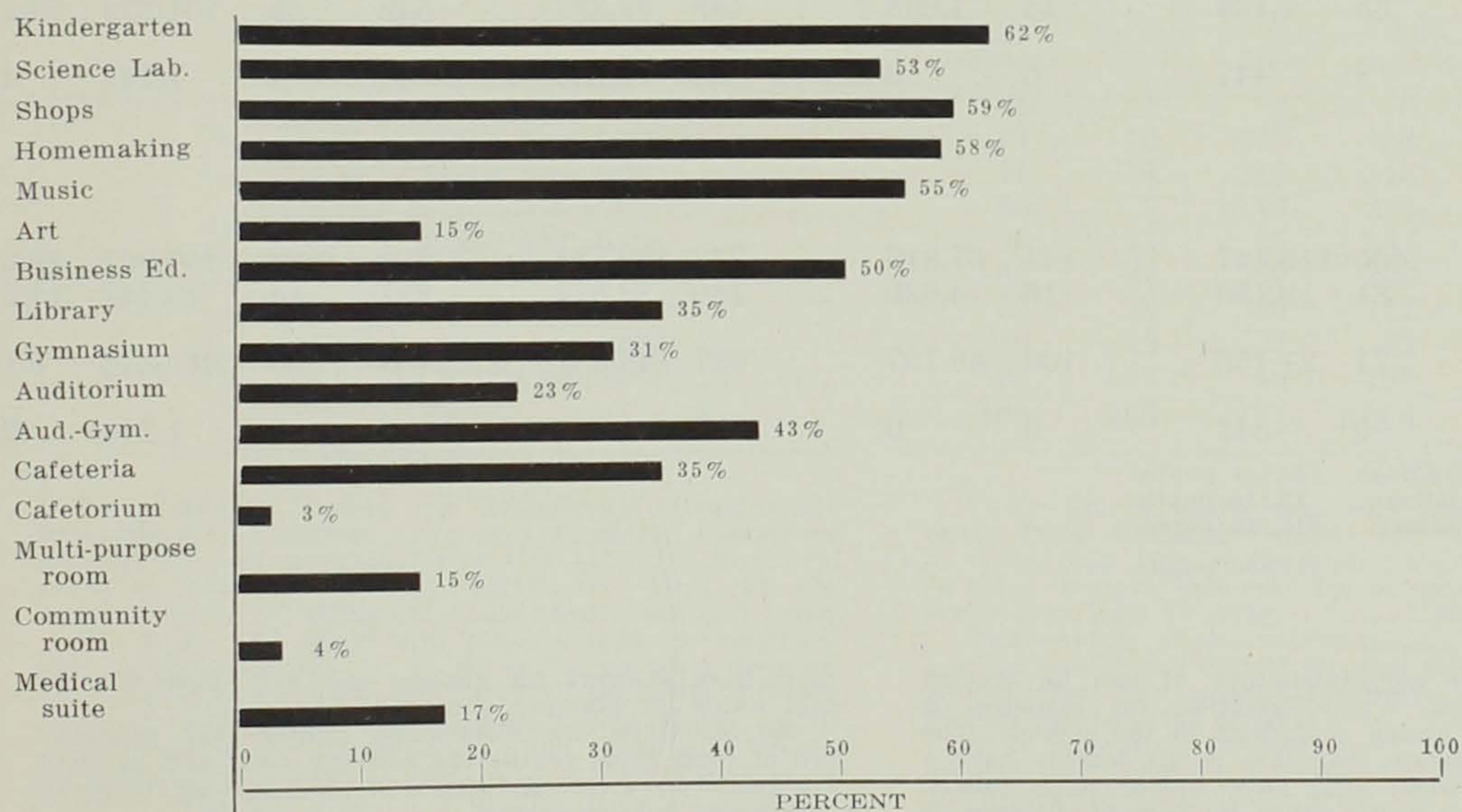




TABLE 18

## Service systems in town and consolidated schools.

	ELEMENTARY		SECONDARY		COMBINED		TOTAL			
	No. of buildings	No. of pupils	No. of buildings	No. of pupils	No. of buildings	No. of pupils	No. of buildings	Percent	No. of pupils	Percent
1. Heating:										
Central heat .....	478	128,838	154	71,983	834	209,045	1,466	95.5	409,866	98.2
Room heat .....	7	547	2	210	67	4,174	76	3.8	4,931	1.1
Mixed .....	2	559	1	243	8	2,091	11	.7	2,893	.7
2. Ventilation:										
Mechanical .....	205	68,690	97	54,761	203	64,300	505	33	187,751	45
Gravity ducts .....	39	8,975	5	1,103	132	28,976	176	11	39,054	10
Window .....	197	39,758	38	7,969	341	62,774	576	36	110,501	26
Mixed .....	46	12,521	17	8,603	233	59,260	296	20	80,384	19
3. Artificial lighting:										
Electric .....	487	129,944	157	72,436	909	215,310	1,553	100	417,690	100
Gas lighting .....	0	0	0	0	0	0	0	0	0	0
No artificial .....	0	0	0	0	0	0	0	0	0	0
4. Water service:										
Pressure .....	478	129,171	156	72,296	884	214,462	1,518	98	415,929	99.6
Pump on site .....	4	461	1	140	14	411	19	1	1,012	.2
No water on school grounds	5	312	0	0	11	437	16	1	749	.2
5. Toilets:										
Indoor, flush .....	475	129,134	156	72,296	861	212,501	1,492	96.4	413,931	99.1
Indoor, other .....	1	224	1	140	6	811	8	.5	1,175	.3
Outdoor privy .....	3	103	0	0	27	1,147	30	1.7	1,250	.3
No provisions .....	8	483	0	0	15	851	23	1.4	1,334	.3
6. Sewage disposal:										
Municipal connections .....	441	122,369	142	70,628	388	121,674	971	63	314,671	75.3
School owned septic plants ..	38	7,128	15	1,808	489	92,337	542	35	101,273	24.3
No disposal system .....	8	447	0	0	32	1,299	40	2	1,746	.4
7. Washing facilities										
Hot and cold water in wash basins .....	400	110,447	141	67,816	742	189,734	1,283	84	367,997	88.3
Cold water only ..	81	19,153	16	4,620	140	24,674	237	14	48,447	11.5
Showers for general use .....	71	21,758	100	48,197	587	143,397	758	50	213,352	5.1
No fixed washing facilities .....	6	344	0	0	27	902	33	2	1,246	.2
487 elementary buildings	129,944 pupils									
157 secondary buildings	72,436 pupils									
909 combined buildings	215,310 pupils									
Total 1,553 buildings	417,690 pupils									

See Tables 7, 28 and 29.

Table No. 18 is self-explanatory. It can be studied from several angles. Water facilities, for instance, is directly related to health conditions in the schools. The Survey findings indicate that 98% of all schools have a pressure water system, 96% have indoor flush toilets, 98% have their own septic tanks for sewage disposal or are connected to a municipal system, but only 50% of

them have showers for general use. 84% have hot and cold water for lavatory purposes.

All buildings are electrically lighted, but relatively few of them have ventilating systems. Over 95% of them are heated by a central furnace of some sort or connected with a city heating system.



TABLE 19

Number of schools and pupils per acre of site — (town and consolidated schools).

AREA OF SITE									
Acres									
	Less than 1	1-2.9	3-4.9	5-9.9	10-14.9	15-24.9	25-50	Over 50	Total
Elementary:									
No. of schools ....	58	279	81	32	8	5	0	0	463
Percent of schools .....	13	60	17	7	2	1	0	0	100
No. of pupils .....	11,976	71,182	28,369	11,320	3,352	2,009	0	0	128,208
Percent of pupils .....	9	55	22	9	3	2	0	0	100
Secondary:									
No. of schools ....	17	61	15	19	9	10	4	0	135
Percent of schools .....	13	45	11	14	7	7	3	0	100
No. of pupils .....	4,904	25,417	7,129	10,495	6,560	9,031	3,794	0	67,330
Percent of pupils .....	7	38	11	15	10	13	6	0	100
Combined:									
No. of schools ....	16	237	161	302	38	14	3	0	771
Percent of schools .....	3	30	20.7	39	5	2	.3	0	100
No. of pupils .....	3,270	62,012	44,566	73,995	10,368	6,319	1,646	0	202,176
Percent of pupils .....	2	31	22	36	5	3	1	0	100
All schools:									
No. of schools ....	91	577	257	353	55	29	7	0	1,369
Percent of schools .....	6.5	42	19	26	4	2	.5	0	100
No. of pupils .....	20,150	158,611	80,064	95,810	20,280	17,359	5,440	0	397,714
Percent of pupils .....	5	40	20	24	5	4.5	1.5	0	100

## PUPILS PER ACRE OF SITE

	Schools			
	Elementary	Secondary	Combined	All schools
Less than 10 pupils per acre	1	1	4	6
10-24.9 pupils per acre	17	10	101	128
25-49.9 pupils per acre	41	17	255	313
50-74.9 pupils per acre	63	9	143	215
75-99.9 pupils per acre	55	13	66	134
100-149.9 pupils per acre	101	23	82	206
150-199.9 pupils per acre	60	10	47	117
200-250 pupils per acre	40	15	27	82
Over 250 pupils per acre	85	37	46	168
Total	463	135	771	1,369

See Tables 8, 9, 30, 31.

The National Council on Schoolhouse Construction recommends a minimum site of 5 acres for elementary schools, plus an additional acre for each 100 pupils of predicted ultimate maximum enrollment. Thus, an elementary school of 200 pupils would have a site of 7 acres.

For junior and senior high schools, it is recommended that a minimum site of 10 acres be provided plus an additional acre for each 100 pupils of predicted ultimate maximum enrollment. Thus, a high school of 500 pupils would have a site of 15 acres. For secondary schools accommodating grades 13 and 14, a minimum site of 30 acres is suggested plus an additional acre for each 100 students of predicted ultimate maximum enrollment.

Table No. 19 shows that only 10% of the town and consolidated elementary plants are on a site of 5 acres or more, only 17% of the high schools are on a site of 10 acres or more and only 7% of combined schools have a site of at least 10 acres.

The majority of elementary schools have a site of from 1 to 2.9 acres, and 45% of all high schools have a site of similar area. The largest percentage (39%) of combined schools are on sites of from 5 to 9.9 acres.

It is impossible to have buildings, playground space for free play, room for playground equipment, sports areas, and tracts for vocational projects on 2-acre sites. Modern education calls for such provisions, which in turn requires much more space.



**TABLE 20**  
**Percent of pupils housed in school plants of various ages — (town and consolidated schools).**

<b>A</b>				
<b>ELEMENTARY</b>				
Constructed	Plants		Pupils	
	No. of plants	Percentage of total plants	No. of pupils	Percentage of total pupils
Before 1900 .....	132	29	32,676	25
1900-1919 .....	192	41	53,012	41
1920-1929 .....	61	13	19,094	15
1930-1939 .....	47	10	14,799	12
1940-1944 .....	8	2	2,620	2
Jan.-1945 to March 1951	23	5	6,007	5
Total .....	463	100	128,208	100

<b>B</b>				
<b>SECONDARY</b>				
Constructed	Plants		Pupils	
	No. of plants	Percentage of total plants	No. of pupils	Percentage of total pupils
Before 1900 .....	12	9	4,511	7
1900-1919 .....	53	39	24,287	36
1920-1929 .....	47	35	25,902	38
1930-1939 .....	20	15	11,503	17
1940-1944 .....	2	1.5	657	1
Jan.-1945 to March 1951	1	.5	470	1
Total .....	135	100	67,330	100

See Charts 8 (sections A. B. C. D.) and 15.  
 Table 10.

Table No. 20 includes all school plants from those constructed before 1900 to those completed as of March, 1951.

Chart No. 8 includes plants under construction as of March, 1951. Only three new high schools were being built in Iowa during the year of 1951.

Table 20 indicates that 70% of all the elementary plants are over 30 years old, 48% of all secondary plants and 57% of all combined plants are of the same age. 51,377 pupils have their classes in 198 plants all of which were built before 1900. If the average school plant is designed

to last 30 years, then in Iowa there are 829 plants, or 61% of all plants, that should be replaced at once. These plants are now housing 58% of all the children going to the town and consolidated schools.

Only 4% of all the schools are as new as 12 years of age which shows there has been very little effort put forth to provide facilities to meet the problems of expanding population, migration of rural pupils to larger school systems, and the changing school curriculum.



TABLE 20 (continued)

Percent of pupils housed in school plants of various ages.

C  
COMBINED — ELEMENTARY-SECONDARY

Constructed	Plants		Pupils	
	No. of plants	Percentage of total plants	No. of pupils	Percentage of total pupils
Before 1900 .....	54	7	14,190	7
1900-1919 .....	386	50	101,155	50
1920-1929 .....	237	31	61,780	30.6
1930-1939 .....	84	11	22,986	11.4
1940-1944 .....	4	.5	882	.4
Jan. 1945 to March 1951	6	.5	1,183	.6
Total .....	771	100	202,176	100

D  
TOTAL\* — ALL SCHOOLS

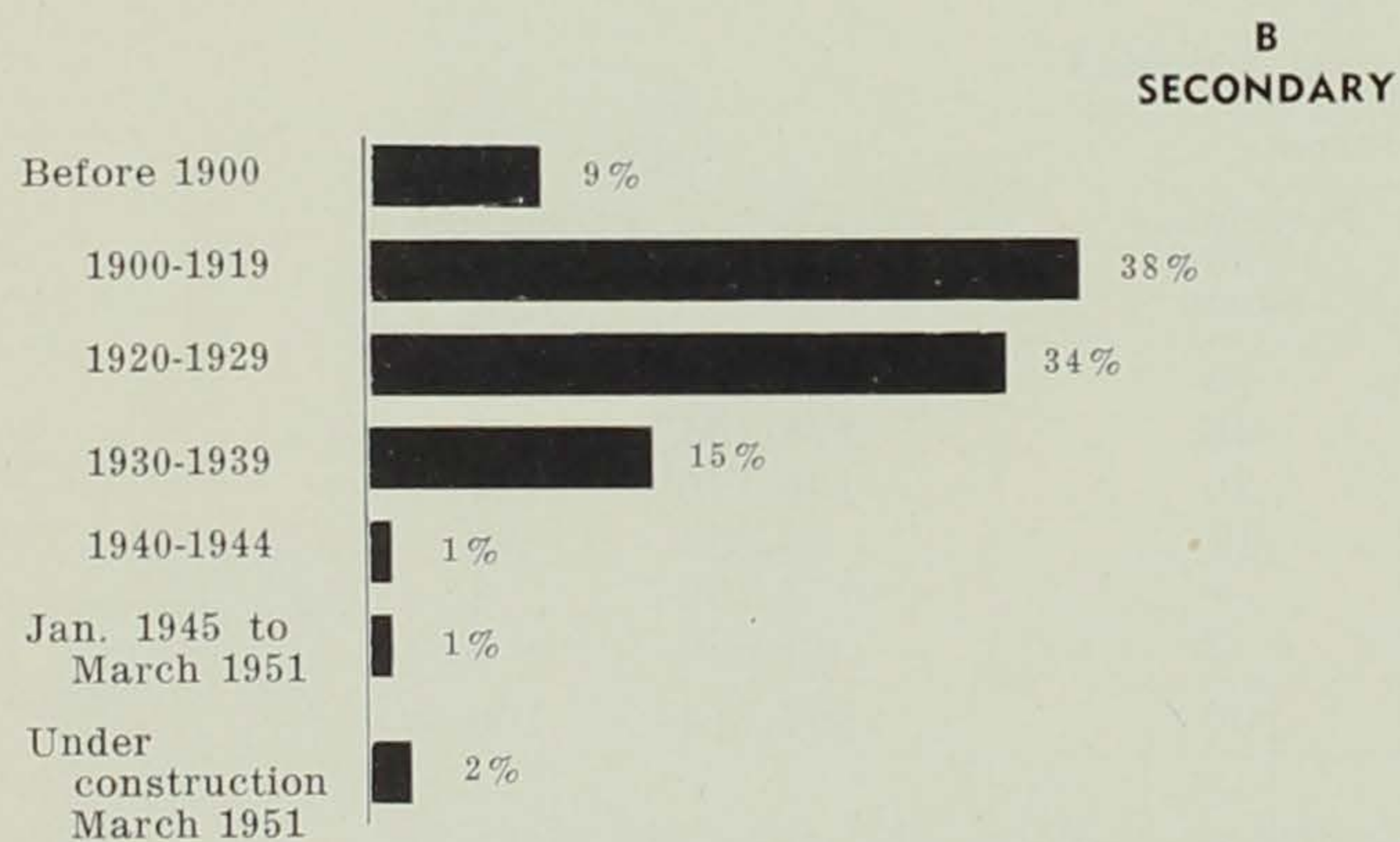
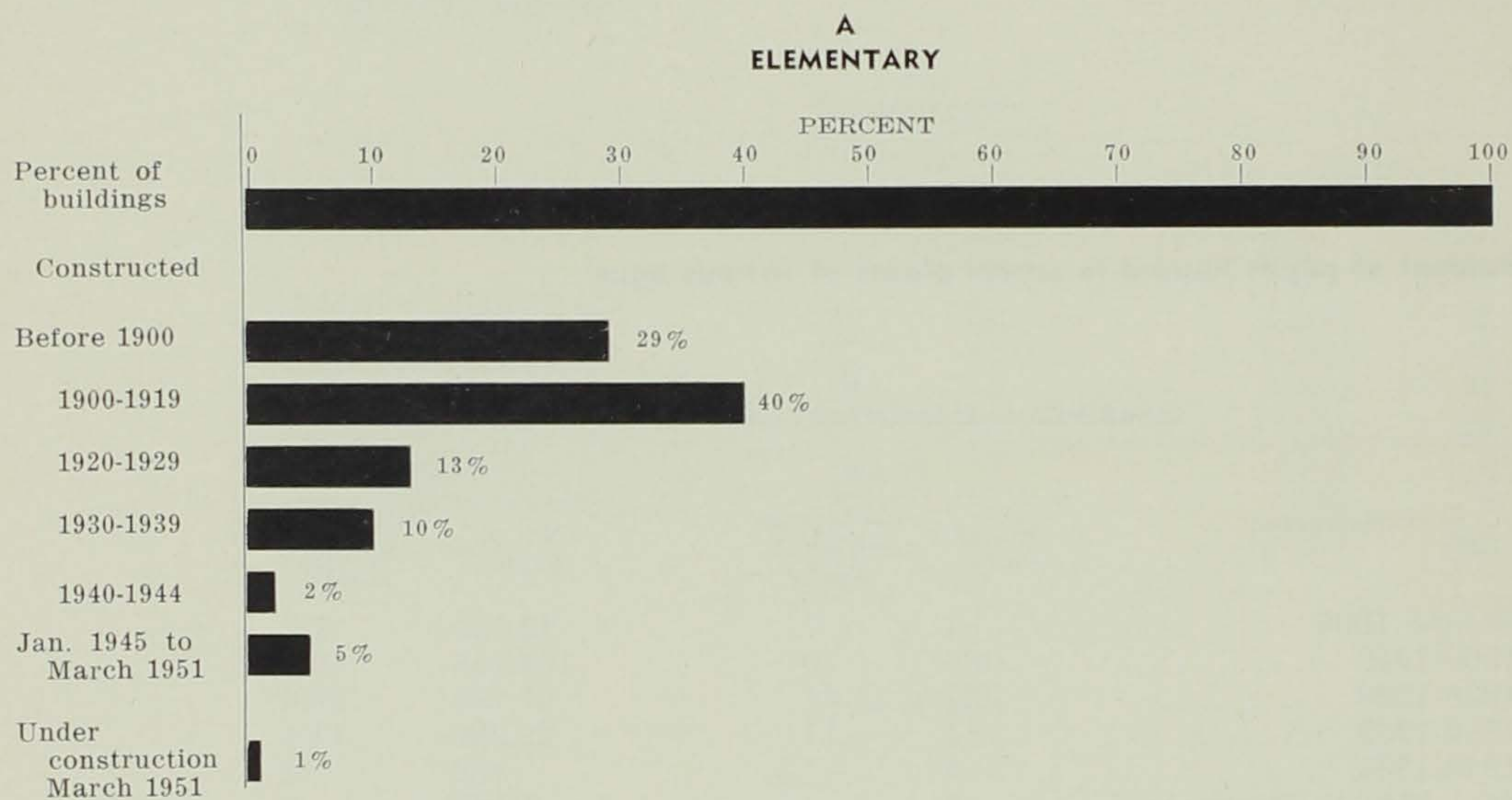
Constructed	Plants		Pupils	
	No. of plants	Percentage of total plants	No. of pupils	Percentage of total pupils
Before 1900 .....	198	15	51,377	13
1900-1919 .....	631	46	178,454	45
1920-1929 .....	345	25	106,776	27
1930-1939 .....	151	11	49,288	12
1940-1944 .....	14	1	4,159	1
Jan. 1945 to March 1951	30	2	7,660	2
Total .....	1,369	100	397,714	100

\* Does not include 11 plants under construction as of March, 1951 and 3,824 pupils to be housed in these plants. (6 elementary plants, 3 secondary plants, and 2 combined plants.)



## CHART 8

Age of school plants — (town and consolidated schools) as of March 1951.



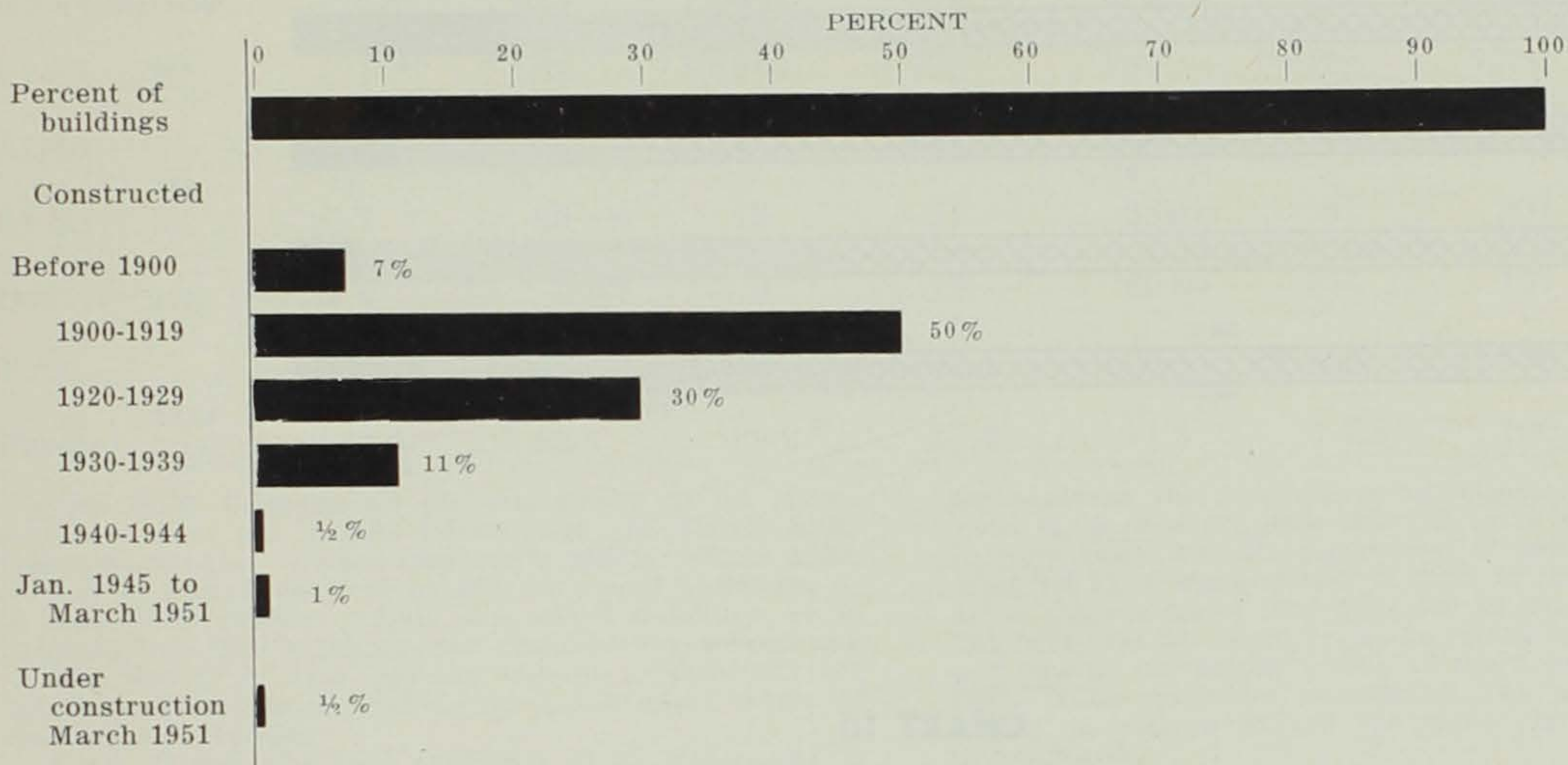


## CHART 8 (continued)

Age of school plants as of March, 1951.

C

## COMBINED — ELEMENTARY-SECONDARY



D

## TOTAL ALL SCHOOLS

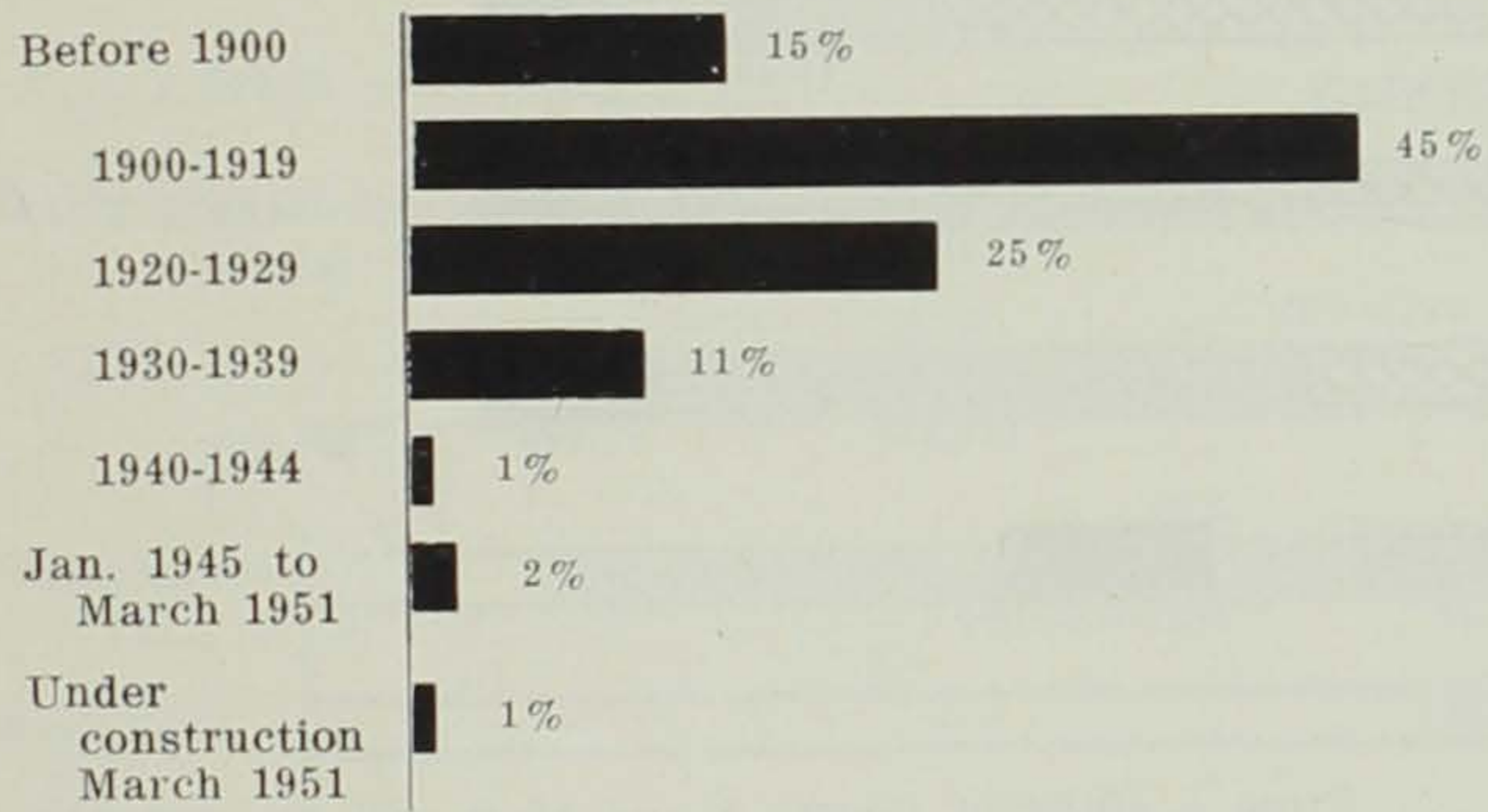




CHART 9

Rating of school plants — (town and consolidated schools).

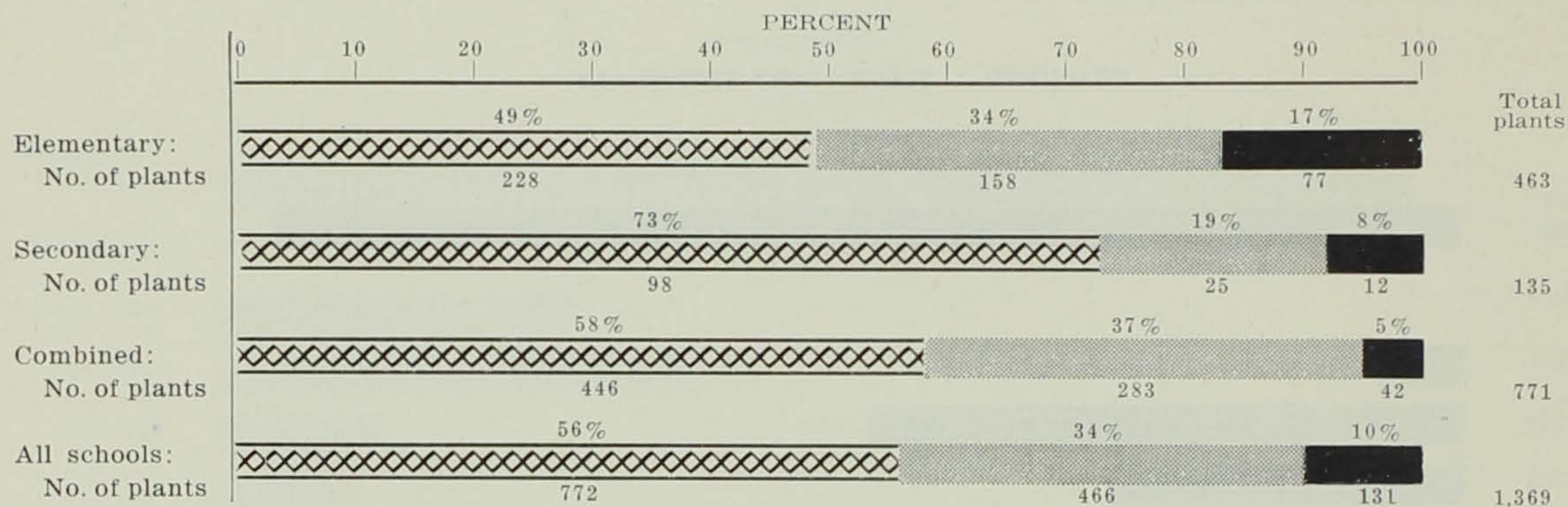
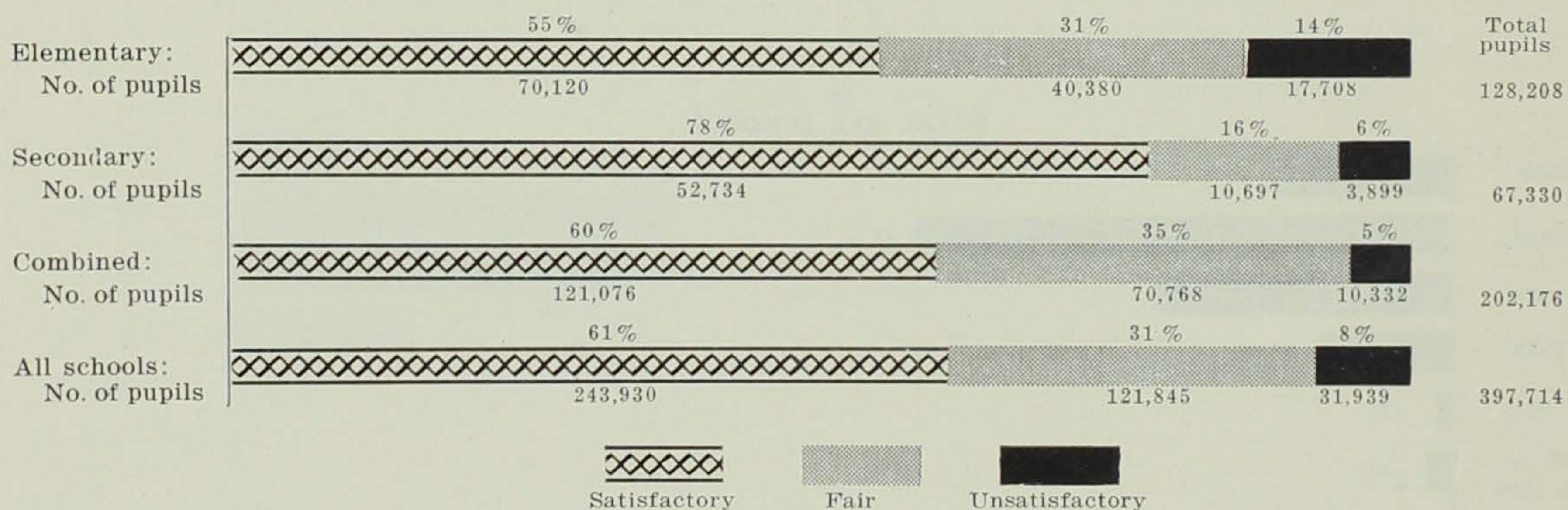


CHART 10

Percent and number of pupils housed in school plants — (town and consolidated schools).



See Charts 5 and 18.

Chart No. 9 provides an evaluation of existing public-school plants. Schools were rated on 10 major defects among which were: structurally unsafe, non-correctible fire hazard, completely obsolete as to educational adequacy, unsatisfactory and hazardous environment, completely inadequate site which cannot be enlarged, and poorly located with respect to school population and school organization.

From a study of Charts 9 and 10 it will be observed that 10% of all the town and consolidated schools, or 131 plants, are obsolete and unfit for occupancy, and that 31,939 children attend these schools. Most of these are elementary schools.

See list of Definitions as to what is meant by satisfactory, fair and unsatisfactory school plants.



TABLE 21

Classrooms distributed according to size and pupil load — (town and consolidated schools).

No. of pupils per classroom	Less than 400 sq. ft.	400-600 sq. ft.	600-700 sq. ft.	700-800 sq. ft.	800-900 sq. ft.	Over 900 sq. ft.	Total	Percent
Under 20 .....	778	878	605	374	191	119	2,945	20
21-30 .....	391	1,665	2,401	1,738	747	429	7,371	50
31-40 .....	70	709	1,240	1,003	664	369	4,055	27
41-50 .....	7	23	75	51	58	87	301	2
Over 50 .....	6	6	5	12	20	108	157	1
Total .....	1,252	3,281	4,326	3,178	1,680	1,112	14,829	100
Percent .....	8.5	22.1	29.2	21.4	11.3	7.5	100	

This table includes all the classrooms in all school plants. It does not include laboratories and shops. It includes classrooms whether they are in regular school buildings or in rented quarters outside of school buildings, or in make-shift quarters within the school buildings, or in barracks or other buildings not designed for school use.

The size of a class and the size of a classroom are two factors that have much to do in the effectiveness of teaching and learning.

Table 21 indicates that over 30% of all classrooms in this group contain less than 600 sq. ft. Educational ex-

perts stress the importance of classrooms of at least 1,000 sq. ft. and no more than 25 to 30 pupils to a class. In Iowa there are 821 classrooms of less than 600 sq. ft. attended by average classes of from 31 to 50 pupils. There are 6 classrooms of less than 400 sq. ft. where the class numbers over 50. There are some rooms where the children and teacher completely utilize all the floor area and where there is no space for equipment. The pupils' books are stored on shelves around the walls above the heads of the children.

See Tables 11 and 34.

CHART 11

Daily classroom load in satisfactory and fair school plants — (town and consolidated schools).

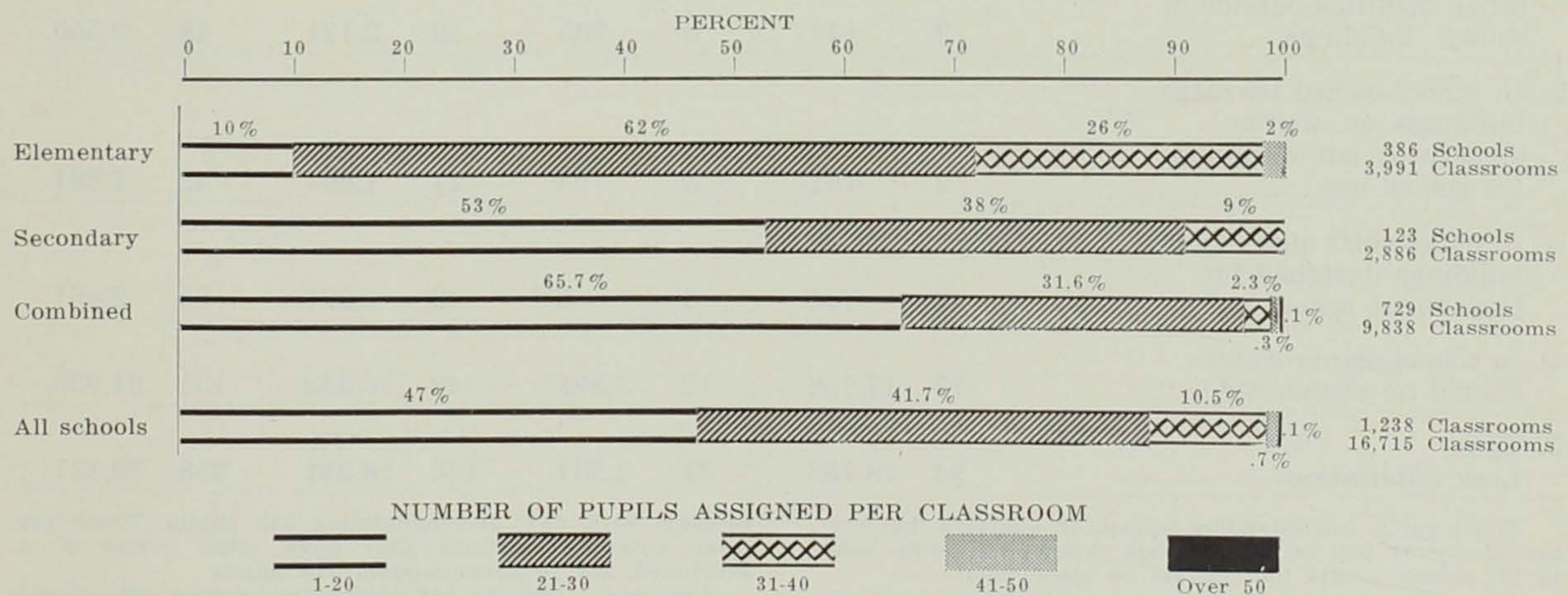




TABLE 22

Percent of classrooms having daily loads within certain limits — (town and consolidated schools).

No. pupils per classroom	0-20	21-30	31-40	41-50	Over 50	Total
Type of school						
Elementary:	10%	62%	26%	2%	0%	100
No. of schools	38	239	102	7	0	386
Secondary:	53%	38%	9%	0%	0%	100
No. of schools	65	47	11	0	0	123
Combined	65.7%	31.6%	2.3%	.3%	.1%	100
No. of schools	479	230	17	2	1	729
All schools:	47%	41.7%	10.5%	.7%	.1%	100
No. of schools	582	516	130	9	1	1,238

This does not include 131 school plants that are rated as unsatisfactory of which 77 are elementary, 12 secondary and 42 combined schools.

See Table 33.

TABLE 23

Use of sub-standard or non-publicly-owned facilities — (town and consolidated schools).

Type of facility	Elementary		Secondary		Combined		Total	
	No. of schools	No. of pupils	No. of schools	No. of pupils	No. of schools	No. of pupils	No. of schools	No. of pupils
1. In rented quarters or other facilities outside of school buildings .....	2	144	6	285	40	2,121	48	2,550
2. In school-owned barracks buildings or similar structures not designed for school use .....	2	161	3	53	27	1,667	32	1,881
3. In make-shift quarters in buildings designed for permanent school use .....	13	740	0	0	42	2,221	55	2,961
4. In school plants which should be abandoned .....	77	17,708	12	3,899	42	10,332	131	31,939
5. Total								
Less duplications .....	94	18,753	21	4,237	143	16,341	258	39,331

39,331 pupils are attending schools in quarters that are inadequate. It will be noticed that classes are being held in 131 school plants that should be abandoned.

There are some areas in Iowa where school facilities are so lacking, and pupils so plentiful, that triple sessions are held, each set of pupils attending school only two to three hours daily. Three elementary schools have double

sessions each day, accommodating 232 pupils. There are three combined schools that have other forms of a shortened day to accommodate 170 pupils.

Last year (1950-51) 194 pupils were denied educational opportunities because the kindergartens were closed because of lack of space.

See Tables 13 and 35.



SECTION C

# All Schools



## SECTION C - ALL SCHOOLS

This Section includes a combination of Sections A and B into one group. It is the whole picture of public school educational facilities in all of Iowa, rural sections, towns, cities, and consolidated areas. It is this report that was made to the U. S. Office of Education to be compared with similar reports from other states and territories, and then combined with them for a report to the Congress on educational facilities in the United States.

In this Section occasional comparisons will be made with the combined report of 25 states and territories enrolling 1,293,744 pupils which the U. S. Office issued in their First Progress Report of the School Facilities Survey made in May, 1952.

Section C includes 6,286 school plants housing 481,060 pupils and 6,471 school buildings in which classes are held all day or part of a day for 501,059 pupils. A pupil may attend classes during a day in two or more buildings and would be counted in each class, hence the differentiation in the number of pupils enumerated above. A school plant may be made up of only one building as is the case of most rural schools, or it may be composed of two or more buildings as is found in many town and consolidated school districts.

Tables 24, 25, and 26, and Chart No. 12 provide information on the fire safety of public school buildings in

Iowa and the number of pupils housed in certain types of these buildings.

It is not probable that all school buildings will ever be or should be fireproof, but it is recognized that fire-resistive buildings, or even those that are semi-fire resistive, are much less susceptible to damage or loss by fire and are less dangerous to children than are combustible buildings.

Pupil fire safety of a building is affected by the relation of height to type of construction. For example, it is generally agreed that one-story buildings of any type of construction are comparatively safe from fire hazards providing they have enough exits which are placed at strategic points. It is also conceded that any two-story building made of materials and constructed to be semi-fire resistive, with fire-resistive corridors, insures a certain degree of fire safety for pupils. But school safety experts demand that any school building more than two stories in height should be absolutely fire-resistive.

There are many school buildings in Iowa composed of sections that have been constructed at different periods of time. Oftentimes one part of such a building is fire-resistive and another part is combustible. This results in a mixed safety factor and in this Survey is called a "mixed" building.

TABLE 24

School buildings rated as to fire safety and number of pupils housed in these buildings.

(ALL SCHOOLS)

Type of construction	Number of stories							
	One		Two		Three or more		Totals	
	No. of buildings	No. of pupils	No. of buildings	No. of pupils	No. of buildings	No. of pupils	No. of buildings	No. of pupils
Fire-resistive:								
Elementary .....	54	7,200	136	40,269	38	15,032	228	62,501
Secondary .....	7	2,434	35	14,812	54	34,300	96	51,546
Combination .....	39	6,105	210	55,471	143	44,865	392	106,441
Semi-fire resistive:								
Elementary .....	209	5,896	121	24,075	28	8,435	358	38,406
Secondary .....	9	1,380	18	3,470	16	9,246	43	14,096
Combination .....	34	4,428	182	39,970	110	32,460	326	76,858
Combustible:								
Elementary .....	4,612	73,051	150	22,620	15	4,566	4,777	100,237
Secondary .....	3	130	8	1,326	3	2,280	14	3,736
Combination .....	72	3,366	26	4,015	11	2,025	109	9,406
Mixed:								
Elementary .....	3	156	26	7,643	13	4,370	42	12,169
Secondary .....	1	135			3	2,923	4	3,058
Combination .....	7	859	47	12,938	28	8,808	82	22,605
Totals:								
Elementary .....	4,878	86,303	433	94,607	94	32,403	5,405	213,313
Secondary .....	20	4,079	61	19,608	76	48,749	157	72,436
Combination .....	152	14,758	465	112,394	292	88,158	909	215,310
Grand total .....	5,050	105,140	959	226,609	462	169,310	6,471	501,059



TABLE 25

Number and percent of school buildings rated by type of construction with number and percent of pupils housed in these buildings.

(ALL SCHOOLS)

Type of school	Total	Type of construction			
		Fire resistive	Semi-fire resistive	Combustible	Mixed
Elementary:					
No. of buildings ..	5,405	228	358	4,777	42
Percent of buildings .....	100	4	7	88	1
No. of pupils housed .....	213,313	62,501	38,406	100,237	12,169
Percent of pupils housed .....	100	29	18	47	6
Secondary:					
No. of buildings ..	157	96	43	14	4
Percent of buildings .....	100	61	27	9	3
No. of pupils housed .....	72,436	51,546	14,096	3,736	3,058
Percent of pupils housed .....	100	71	20	5	4
Combined:					
No. of buildings ..	909	392	326	109	82
Percent of buildings .....	100	43	36	12	9
No. of pupils housed .....	215,310	106,441	76,858	9,406	22,605
Percent of pupils housed .....	100	49	36	4	11
Total schools:					
No. of buildings ..	6,471	716	727	4,900	128
Percent of buildings .....	100	11	11	76	2
No. of pupils housed .....	501,059	220,488	129,360	113,379	37,832
Percent of pupils housed .....	100	44	26	23	7

A study of Table 25 shows that 11% of all school buildings are fire-resistive, 11% are semi-fire resistive, while 76% are combustible. Of the 6,471 school buildings in Iowa 4,918 of them are rural structures most of which have one-room schools, only one story in height.

See Tables 4 and 14.



TABLE 26

**School buildings classified as to number of stories with number and percent of pupils housed in these buildings.**

Type of school	One story only	Two stories	Three or more stories	Total
Elementary:				
No. of buildings ..	4,878	433	94	5,405
Percent of buildings .....	90	8	2	100
No. of pupils housed .....	86,303	94,607	32,403	213,313
Percent of pupils housed .....	40	45	15	100
Secondary:				
No. of buildings ..	20	61	76	157
Percent of buildings .....	13	39	48	100
No. of pupils housed .....	4,079	19,608	48,749	72,436
Percent of pupils housed .....	6	27	67	100
Combined:				
No. of buildings ..	152	465	292	909
Percent of buildings .....	17	51	32	100
No. of pupils housed .....	14,758	112,394	88,158	215,310
Percent of pupils housed .....	7	52	41	100
All schools:				
No. of buildings ..	5,050	959	462	6,471
Percent of buildings .....	78	15	7	100
No. of pupils housed .....	105,140	226,609	169,310	501,059
Percent of pupils housed .....	21	45	34	100

105,140 pupils attend school in 5,050 one-story buildings.

266,609 pupils attend school in 959 two-story buildings.

169,310 pupils attend school in 462 buildings of 3 or more stories.

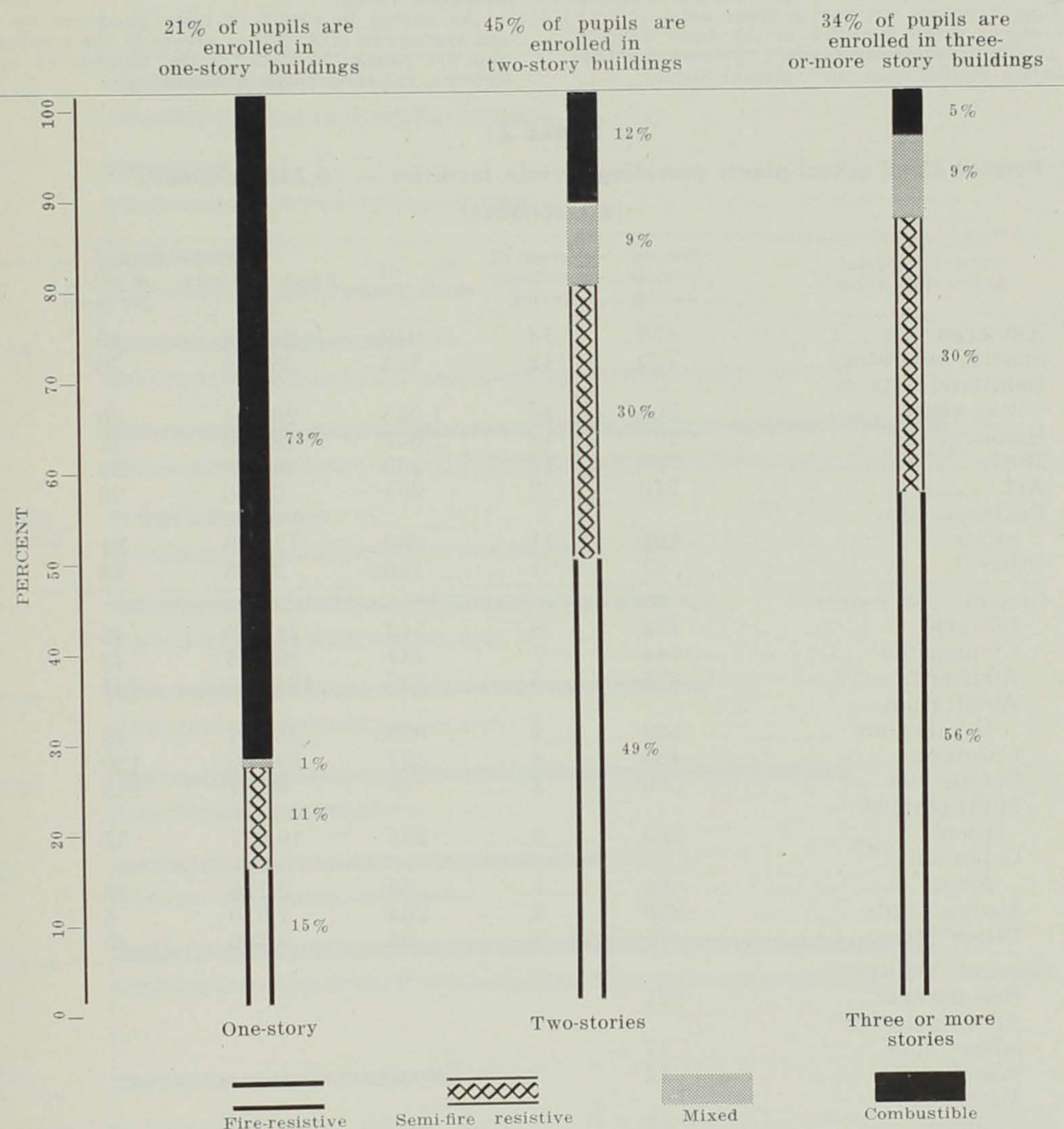
See Tables 5 and 15.



CHART 12

Percent of pupils housed in buildings rated according to fire-safety.

(ALL SCHOOLS)



Only 15 elementary buildings, 3 high school buildings, and 11 combined buildings. three or more stories high, are combustible.

More children attend school in buildings of two stories than in any other type.



It is not absolutely essential that specific rooms be set aside for the teaching of subjects in high school, but it is generally agreed that specific subjects need specific facilities if instruction is to be imparted at its highest level and the educational program is to be improved.

Buildings with shops, laboratories, art rooms, and home-making rooms certainly provide better instructional opportunities than buildings not having these units.

Table 27 shows these facilities in the Iowa Schools. Charts No. 13 and 14 show the absence of these facilities with comparative figures from the National Survey.

In Chart 13 relating to Town and Consolidated schools with high schools, it will be noted that Iowa exceeds the national average in its number of libraries, auditoriums, gymnasiums, cafeterias, and medical units, but lags behind in such facilities as shops, laboratories, home-making rooms, music rooms, art rooms, and business education rooms.

As shown in Chart 14 Iowa measures up well with the average of other states except in the number of music and art rooms. It leads in the number of gyms, auditoriums, cafeterias, and libraries.

**TABLE 27**  
**Percent of all school plants providing certain facilities — (6,286 schools).\***  
**(ALL SCHOOLS)**

Type of special instruction room	No. of schools having	Percent of all schools having	No. of such rooms	Pupil capacity	Average No. of pupils per room
Kindergarten .....	858	14	949	28,274	30
Science laboratory ..	730	12	894	23,136	26
Industrial arts or voc. shops .....	808	13	1,055	20,574	20
Homemaking .....	797	13	1,047	18,126	17
Music .....	768	12	933	36,088	39
Art .....	210	3	251	6,596	26
Business edu- cation .....	691	11	892	19,059	21
Other** .....	67	1	106	2,965	28
General use rooms:					
Library .....	482	8	513	21,403	42
Gymnasium <sup>1</sup> .....	444	7	484	20,675	43
Auditorium .....	316	5	327	124,623	381
Auditorium- Gymnasium <sup>1</sup> ....	589	9	593	28,557	48
Cafeteria .....	488	8	497	59,755	120
Cafetorium .....	56	1	56	8,287	148
Multi-purpose room <sup>1</sup> .....	220	3	283	16,027	57
Community room .....	64	1	65	5,125	79
Medical suite .....	238	4	264	1,510	6
Other** .....	71	1	94	3,790	40
General facilities:					
Bus garage <sup>2</sup> .....	521				
Administrative office bldgs. ....	17				
Warehouses .....	14				
Maintenance shops .....	40				
Other .....	9				

\* A Special Instruction Room is a room which is specifically designed and equipped for instruction in a special subject.

\*\* "Other" rooms include such rooms as audio-visual aid rooms, swimming pool, rooms for handicapped children, etc.

(1) The capacity of a gymnasium is measured in terms of the largest class that can be held at one time. The pupil capacity of a multi-purpose room is the greatest number of pupils who may be satisfactorily accommodated in any one activity for which the room is used.

(2) 322 bus garages were less than 2,000 sq. ft. in area.

184 less than 5,000 sq. ft.

15 over 5,000 sq. ft.

See Charts 7 (Sections A. B. C. D.), 13 and 14.

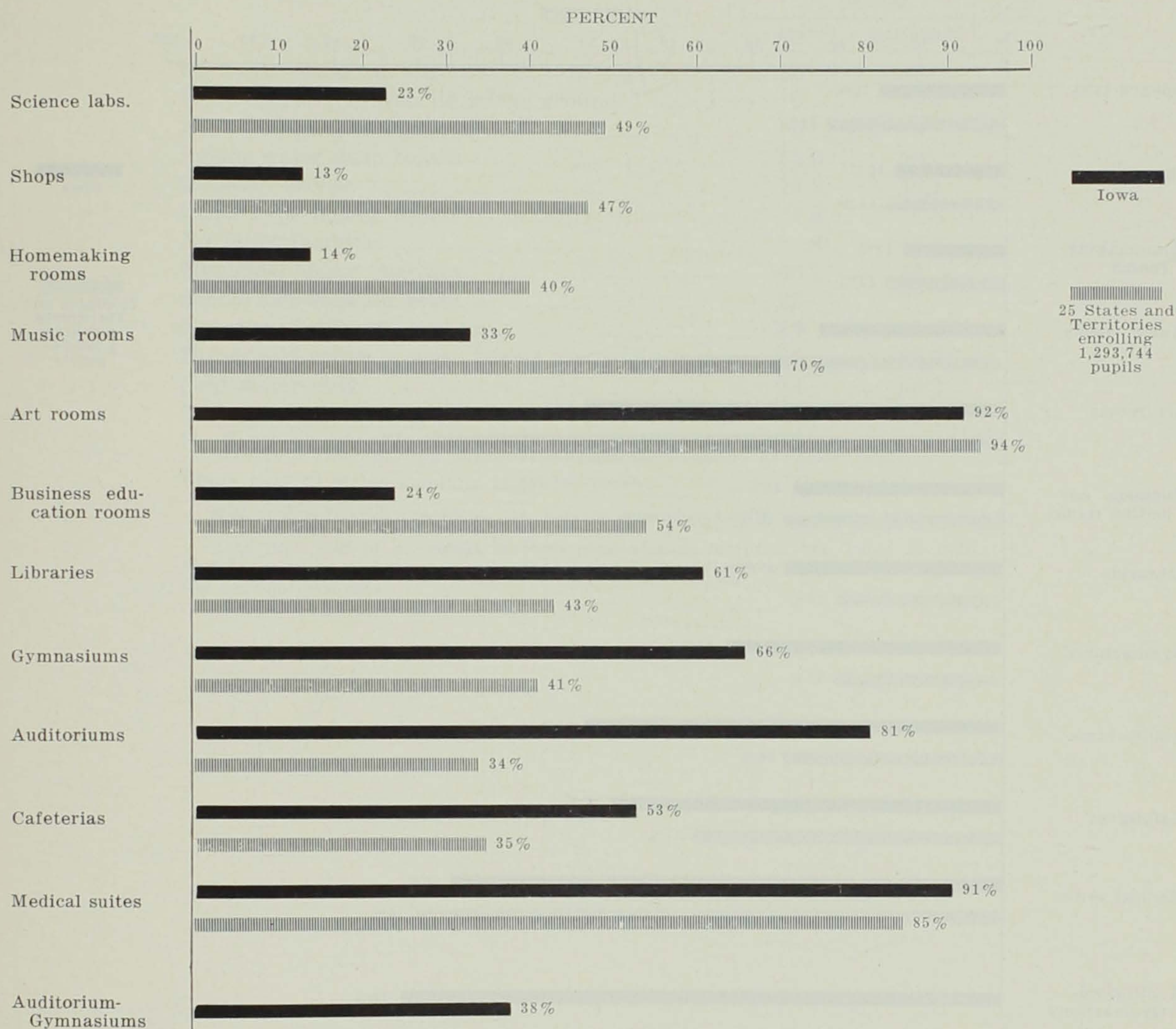
Tables 6 and 17 (Sections A. B. C. and D.).



CHART 13

Percent of combined (elementary-secondary) school plants NOT providing certain facilities.

(771 SCHOOLS)



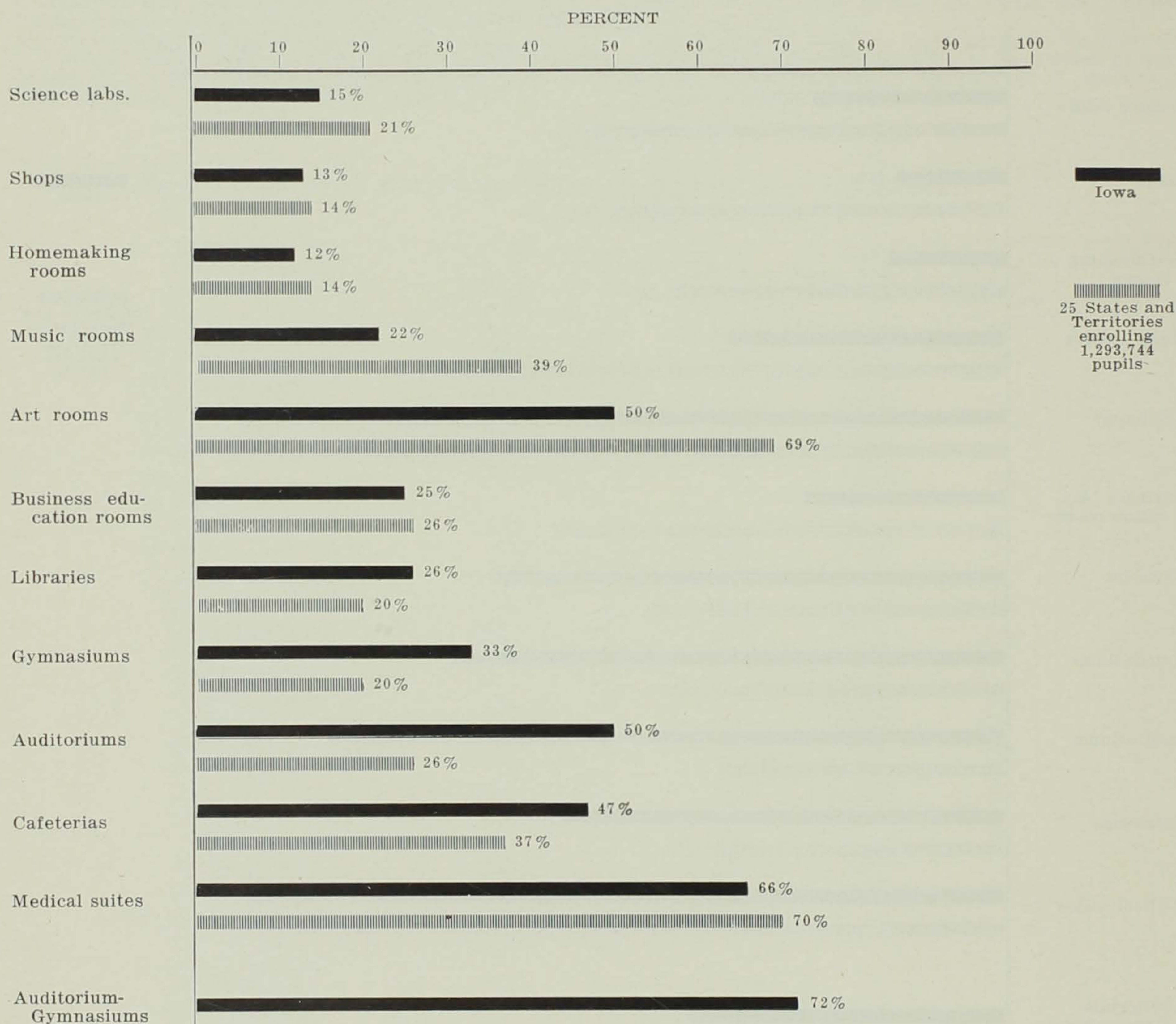
No national data comparable. In the national Survey children having access to a combination auditorium-gymnasium are considered as having access to both auditorium and gymnasium facilities. If this same procedure were followed in Iowa then 96% of the combined schools would have gymnasium facilities and 81% auditorium facilities. 5% of the combined schools have cafeterias which

is a combination of cafeteria and auditorium. 17% of the schools have multi-purpose rooms in which the pupils eat their lunches. This would alter the data somewhat on cafeterias, gyms, and auditoriums.

See Charts 7 (Sections A. D. C. D.), and 14. Tables 6 and 27.



**CHART 14**  
**Percent of secondary schools NOT providing certain facilities.**  
 (135 SCHOOLS)



No national data comparable. In national Survey children having access to a combination auditorium-gymnasium are considered as having access to both auditorium and gymnasium facilities. If this same procedure were followed

in Iowa then 95% of the secondary schools would have gymnasium facilities and 84% auditorium facilities.

See Charts 7 (Sections A. B. C. D.), and 13.  
 Tables 6 and 27.



TABLE 28

Percent of pupils having access to indicated water service facilities.

	Percent	
	State	National*
Pressure water service .....	86	88
Hand-operated system on school ground .....	9	8
No water on school ground .....	5	3
Indoor water flush toilets .....	84.6	79
Outdoor privies .....	13.2	17.1
Other type indoor toilets .....	1.9	1.3
No toilet facilities .....	.3	2.5
Municipal sewer facilities .....	63	54
School owned septic plant .....	23	27
No sewage disposal system .....	14	18.8
Hot & cold water in wash basins for pupil use .....	75	35.7
Cold water only .....	13	49.3
Showers for general pupil use .....	43	19
No fixed washing facilities .....	12	14.9

\* Data from 25 states enrolling 11,293,744 pupils.

School water service facilities are directly related to health conditions in the schools.

Less than half of all pupils in Iowa have shower facilities but Table 28 indicates that the percent of Iowa pupils having access to water service facilities is higher than the national average.



TABLE 29

## Service systems in all schools.

Systems	Elementary		Secondary		Combined		Total			
	No. of Bldgs.	No. of pupils	No. of Bldgs.	No. of pupils	No. of Bldgs.	No. of pupils	No. of Bldgs.	Percent of Bldgs.	No. of pupils	Percent of pupils
1. Heating:										
Central heat .....	831	142,982	154	71,983	834	209,045	1,819	28	424,010	84.6
Room heat .....	4,510	68,879	2	210	67	4,174	4,579	71	73,263	14.6
Mixed .....	64	1,452	1	243	8	2,091	73	1	3,786	.8
2. Ventilation:										
Mechanical .....	264	71,313	97	54,761	203	64,300	564	9	190,374	38
Gravity ducts .....	809	23,038	5	1,103	132	28,976	946	15	53,117	11
Window .....	4,245	105,250	38	7,969	341	62,774	4,624	71	175,993	35
Mixed .....	87	13,712	17	8,603	233	59,260	337	5	81,575	16
3. Artificial lighting:										
Electric .....	5,195	210,753	157	72,436	909	215,310	6,261	96.8	498,499	99.5
Gas lighting .....	40	613			0	0	40	.6	613	.1
No artificial .....	170	1,947			0	0	170	2.6	1,947	.4
4. Water service:										
Pressure .....	762	144,032	156	72,296	884	214,462	1,802	28	430,790	86
Pump on site .....	2,767	42,865	1	140	14	411	2,782	43	43,416	9
No water on school grounds ..	1,876	26,416	0	0	11	437	1,887	29	26,853	5
5. Toilets:										
Indoor flush .....	651	138,840	156	72,296	861	212,501	1,668	25.7	423,637	84.6
Indoor, other .....	493	8,705	1	140	6	811	500	7.8	9,656	1.9
Outdoor privy .....	4,243	65,158	0	0	27	1,147	4,270	66	66,305	13.2
No provisions .....	18	610	0	0	15	851	33	.5	1,461	.3
6. Sewage disposal:										
Municipal connections .....	470	124,862	142	70,628	388	121,674	1,000	15	317,164	63
School-owned septic tank .....	528	20,571	15	1,808	489	92,337	1,032	16	114,716	23
No disposal system .....	4,407	67,880	0	0	32	1,299	4,439	69	69,179	14
7. Washing facilities:										
Hot and cold water in wash basins..	483	116,363	141	67,816	742	189,734	1,366	21	373,913	75
Cold water only....	951	37,458	16	4,620	140	24,674	1,107	17	66,752	13
Showers for general use .....	81	22,380	100	48,197	587	143,397	768	12	213,974	43
No fixed washing facilities .....	3,971	59,492	0	0	27	902	3,998	62	60,394	12
5,405 elementary buildings	213,313 pupils.									
157 secondary buildings	72,436 pupils.									
909 combined buildings	215,310 pupils.									
Total 6,471 buildings	501,059 pupils.									

See Tables 7 and 18.

It will be observed from Table 29 that the majority of public schools have central heat, artificial lights, pressure water service, indoor flush toilets, and hot and cold water. Less than half the schools are mechanically ventilated.



Only 1½% of elementary school sites in Iowa measure up to the standards recommended by schoolhouse construction authorities—that of five acres or more. Approximately 84% of all elementary buildings are on sites of from one to 2.9 acres. Seventeen percent of Iowa's secondary school sites are standard minimum size or better of ten acres, although 58% of them are on sites of less than 3 acres. Three sites measure 25 to 50 acres in area.

The combined schools have larger sites, 43% of them being five or more acres.

In viewing all the schools of Iowa in one group it is rather disheartening to note that only about 8% of them have sites of 5 acres or more with 30% of all pupils attending schools on these sites. 53% of all pupils, or a total of 257,361, go to schools on sites of less than 3 acres.

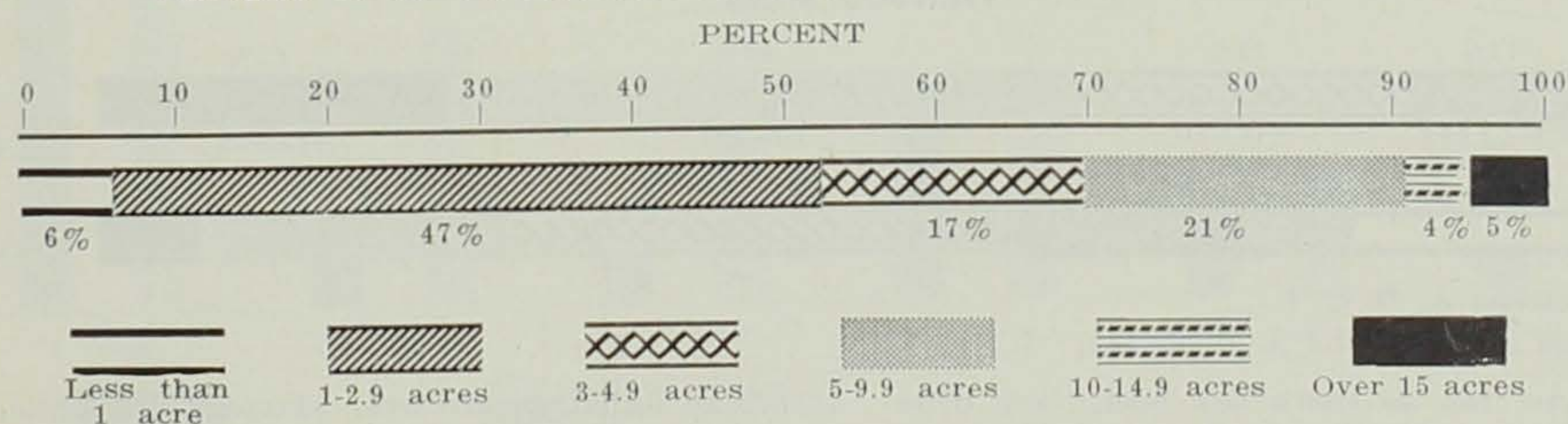
Along with the present problem of inadequacy of classrooms is the inadequacy of school sites. Constructing additions to buildings on sites already much too small for modern educational programs only accentuates the problem. It may increase classroom space but it decreases play and recreation space.

TABLE 30

Number of schools and pupils per acre of site — (all schools).

Type of school	Number of acres								Total
	Less than 1	1 to 2.9	3 to 4.9	5 to 9.9	10 to 14.9	15 to 24.9	25 to 50	Over 50	
Elementary:									
No. of schools ....	635	4,516	144	72	8	5	0	0	5,380
Percent of schools .....	11.8	83.9	2.7	1.3	.2	.1	0	0	100
No. of pupils .....	21,825	139,933	30,517	13,918	3,352	2,009	0	0	211,554
Percent of pupils .....	10	66	14	7	2	1	0	0	100
Secondary:									
No. of schools ....	17	61	15	19	9	10	4	0	135
Percent of schools .....	13	45	11	14	7	7	3	0	100
No. of pupils .....	4,904	25,417	7,129	10,495	6,560	9,031	3,794	0	67,330
Percent of pupils .....	7	38	11	15	10	13	6	0	100
Combined:									
No. of schools ....	16	237	161	302	38	14	3	0	771
Percent of schools .....	3	30	20.7	39	5	2	.3	0	100
No. of pupils .....	3,270	62,012	44,566	73,995	10,368	6,319	1,646	0	202,176
Percent of pupils .....	2	31	22	36	5	3	1	0	100
All schools:									
No. of schools ....	668	4,814	320	393	55	29	7	0	6,286
Percent of schools .....	10.6	76.6	5.1	6.2	.9	.5	.1	0	100
No. of pupils .....	29,999	227,362	82,212	98,408	20,288	17,359	5,440	0	481,060
Percent of pupils .....	6	47	17	21	4	4	1	0	100

PERCENT OF PUPILS ATTENDING SCHOOLS ON SITES OF VARIOUS SIZES



See Tables 8, 9, 19, 31.



TABLE 31

## Pupils per acre of site.

(ALL SCHOOLS)

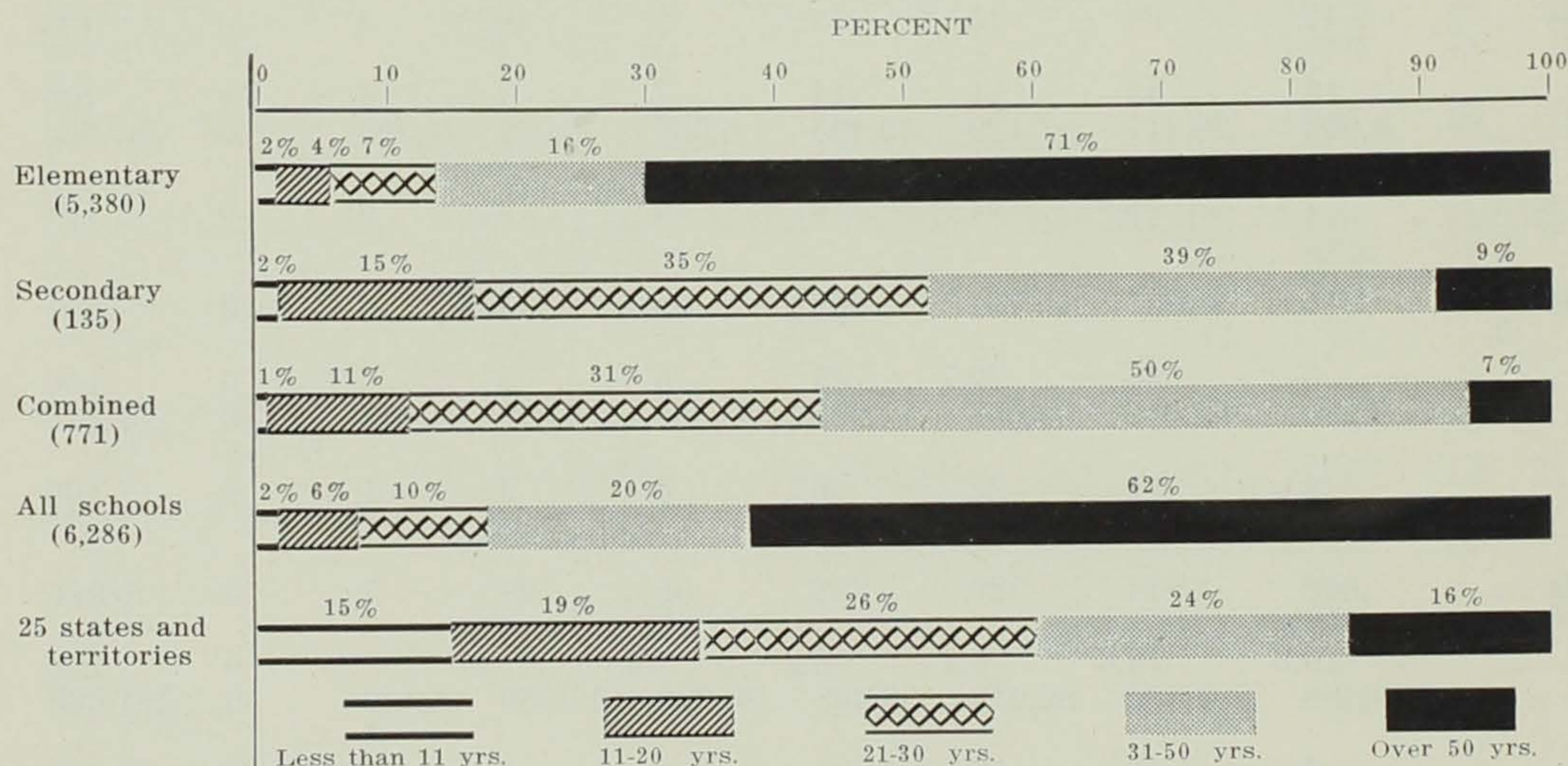
	Number of schools			
	Elementary	Secondary	Combined	All schools
Less than 10 pupils per acre .....	919	1	4	924
10 to 24.9 pupils per acre .....	3,414	10	101	3,525
25 to 49.9 pupils per acre .....	547	17	255	819
50 to 74.9 pupils per acre .....	123	9	143	275
75 to 99.9 pupils per acre .....	67	13	66	146
100 to 149.9 pupils per acre .....	115	23	82	220
150 to 199.9 pupils per acre .....	65	10	47	122
200 to 250 pupils per acre .....	42	15	27	84
Over 250 pupils per acre .....	88	37	46	171
Total number of schools .....	5,380	135	771	6,286

It will be seen by consulting Table 31 that the majority of elementary schools average 10 to 24.9 pupils per acre, that secondary schools have 37 schools of over 250 pupils per acre, that 255 combined schools average from 25 to 49.9 pupils per acre. Over half of all the schools average from 10 to 24.9 pupils per acre.

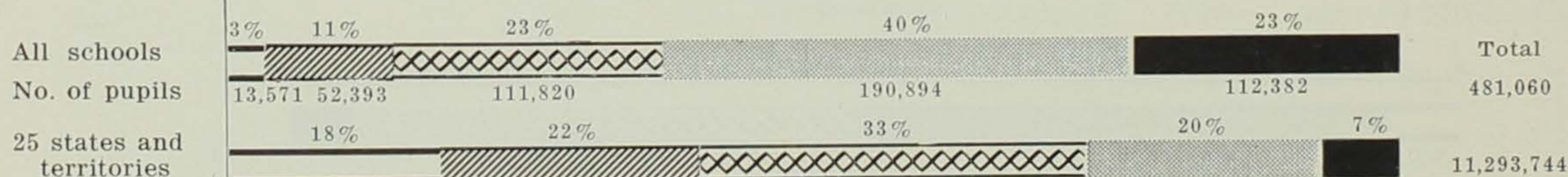
See tables 8, 9, 19, 30.

CHART 15

## Age of all school plants as of March 1951.



## PERCENT OF PUPILS HOUSED IN VARIOUS PLANTS OF VARIOUS SIZES



See Chart 8 (Sections A. B. C. D.).

Tables 10 and 20 (Sections A. B. C. D.).

As shown in Chart No. 15 there has been very little school housing built in Iowa during the past 30 years. 62% of all school buildings are over 50 years old as compared with 16% national figures. Two percent of all Iowa school buildings are less than 11 years old while 15% is the national average. In the national picture 40% of all

school buildings are over 31 years old while in Iowa 82% are over 31 years old.

In the nation only 27% of all school children attend school in buildings over 31 years in age while in Iowa 63% of all pupils go to school in buildings over 31 years in age.

The majority of Iowa's children are attending classes in old buildings on small sites.



TABLE 32

## Size of school plants — (all schools).

Type of school plant	Number of classrooms						Total plants
	1	2-3	4-6	7-13	14-20	More than 20	
Elementary ----	4,629	213	159	269	86	24	5,380
Secondary -----	0	0	10	33	30	62	135
Combined -----	1	0	36	442	205	87	771
All schools ----	4,630	213	205	744	321	173	6,286

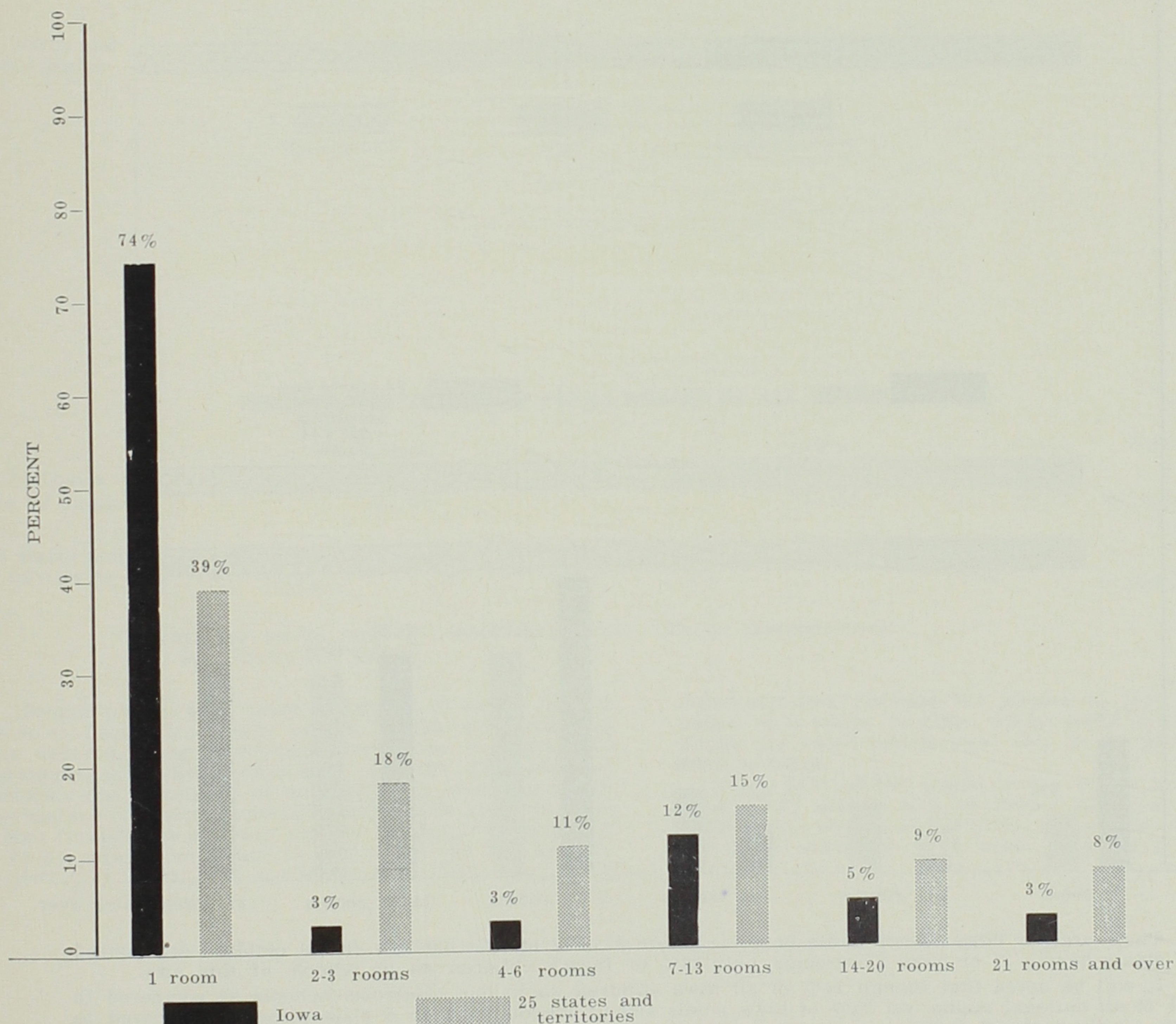
The data of Table 32 reflect clearly the large number of one-room schools most of which are in rural areas. 62 out of 135 of all Iowa secondary schools are fairly large, having more than 20 classrooms. On the other hand, most Iowa high schools are in buildings housing also the elementary grades. Only 87 of these combined grades are in buildings of more than 20 classrooms.

See Charts 4-6, 16 and 17.

Table 16.

CHART 16

## Size of school plants showing percent of total in each category — (all schools).



Example: 3% of all Iowa plants have 21 or more classrooms, as compared to the national 8%.  
 Chart 16 contains data from Table No. 32 shown in comparison form with national data.

See Charts 4-6 and 17.

Tables 16 and 32.

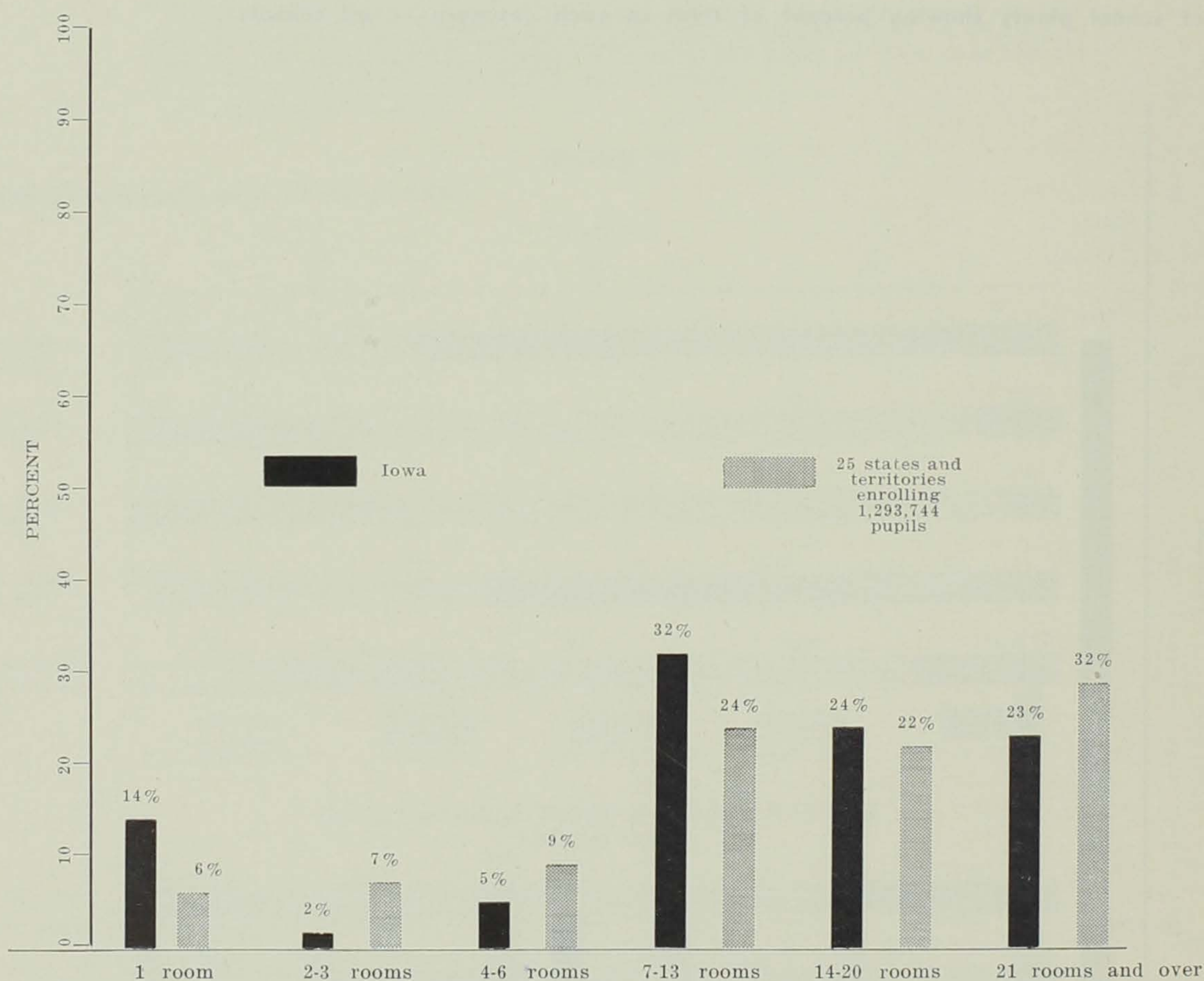


CHART 17

Percent of pupils housed in plants of various sizes.

Type of school plant	NUMBER OF PUPILS HOUSED						
	Number of classrooms						Total pupils
	1	2-3	4-6	7-13	14-20	More than 20	
Elementary ----	66,326	9,016	17,229	67,643	37,072	14,268	211,554
Secondary -----	0	0	886	5,791	12,034	48,619	67,330
Combined -----	67	0	4,551	83,966	65,059	48,533	202,176
All schools -----	66,393	9,016	22,666	157,400	114,165	111,420	481,060

PERCENT OF PUPILS HOUSED



There are few large school plants in Iowa. Where 32% of all the nation's school children are housed in plants having 21 or more classrooms, only 23% of Iowa's children go to schools of this size.

It will be noted that though 14% of all Iowa children go to one classroom schools as compared to 6% of all national pupils, yet 21% of Iowa pupils attend schools of 1 to 6 classrooms as compared to 22% for the national pupils.

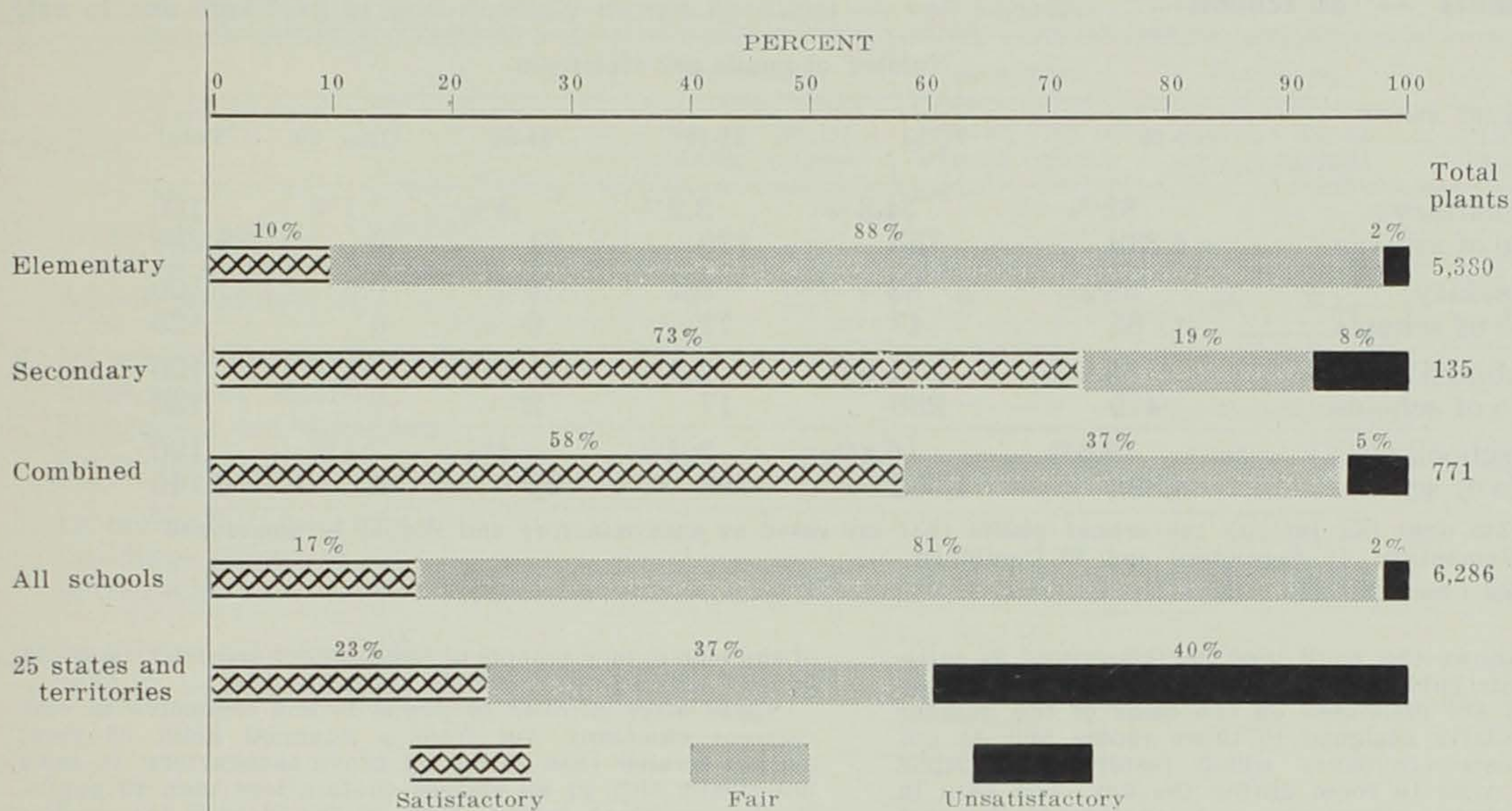
See Charts 4-6 and 16.

Table 32.

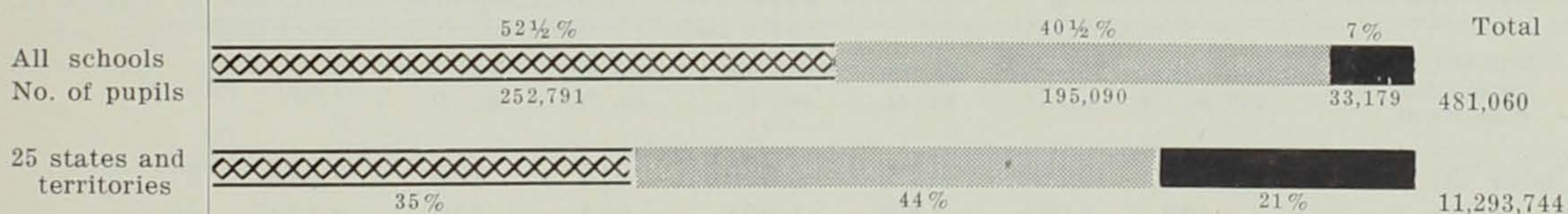


CHART 18

## Rating of all school plants\*.



## PERCENT AND NUMBER OF PUPILS HOUSED IN ALL SCHOOL PLANTS



\* Includes plants rated as either satisfactory, fair or unsatisfactory.  
See Charts 5, 9 and 10.

School plants were rated according to major defects such as being structurally unsafe, having non-correctible fire hazards, being completely obsolete as to educational adequacy, etc., (See Definitions), but the wide variance between the percentage of unsatisfactory Iowa plants and percentage of national unsatisfactory plants probably came about through the leniency used in judging Iowa plants. It will be noted from Chart 18 that when the fair and unsatisfactory plants are combined that there isn't much

difference then between the picture in Iowa and in the nation as a whole. In other words, while 17% of all Iowa plants are rated satisfactory, 23% of all national plants were so rated.

While 35% of the pupils in the nation are housed in satisfactory plants, 53% of Iowa's pupils are housed in satisfactory plants. Subjectivity of judging even though the same standards were used, accounts for some differences.



**TABLE 33**  
**Percent of classrooms having daily loads within certain limits in satisfactory and fair school plants — (all schools).**

Type of school	Number of pupils per classroom					Total
	0-20	21-30	31-40	41-50	Over 50	
Elementary:	82%	14.3%	3.2%	.4%	.1%	100
No of schools .....	4,339	755	170	21	3	5,288
Secondary:	53%	38%	9%	0%	0%	100
No of schools .....	65	47	11	0	0	123
Combined:	65.7%	31.6%	2.3%	.3%	.1%	100
No of schools .....	479	230	17	2	1	729
All schools:	79.5%	16.8%	3.2%	.4%	.1%	100
No of schools .....	4,883	1,032	198	23	4	6,140

This does not include 146 school plants that are rated as unsatisfactory and should be abandoned—92 Elementary, 12 Secondary and 42 Combined.  
 See Chart No. 11.

Table 33 shows the pupil load per classroom in satisfactory and fair public school buildings. Enrollment loads per classroom are estimated on the basis of the number of pupils regularly assigned to these rooms and do not include duplicate occupancy which results from pupils moving from room to room during the day. The data in this Table includes classrooms and laboratories but not gymnasiums.

Many states, including Iowa, recommend limiting the maximum class size to 30 pupils. Table 33 shows about 4%

of the elementary schools of Iowa, 9% of secondary schools, and 3% of combined schools over this limit.

Class sizes of over 30 pupils is not conducive to educational efficiency, yet from a financial point of view, classes smaller than 20 do not prove satisfactory. In Iowa practically 80% of all classes contain less than 20 pupils. In the combined schools 65% of the classes are smaller than 20.

In most rural schools the attendance is less than 20. In the elementary grades of town and consolidated schools 26% of the classes run from 31 to 40.

**TABLE 34**  
**Classrooms distributed according to size and pupil load — (all schools).**

Number of pupils per classroom	Less than 400 sq. ft.	400-600 sq. ft.	600-700 sq. ft.	700-800 sq. ft.	800-900 sq. ft.	Over 900 sq. ft.	Total	Percent
Under 20 .....	1,066	2,365	1,782	1,399	618	286	7,516	37
21 to 30 .....	430	1,858	2,577	1,901	851	517	8,134	40
31 to 40 .....	73	727	1,269	1,041	687	395	4,192	20.6
41 to 50 .....	7	29	81	58	59	89	323	1.6
Over 50 .....	6	6	6	14	20	108	160	.8
Total .....	1,582	4,985	5,715	4,413	2,235	1,395	20,325	
Percent .....	7.8	24.5	28.1	21.7	11	6.9		100

This Table includes all the classrooms in all school plants. It excludes laboratories and shops. It does include classrooms whether they are in regular school buildings or in rented quarters outside of school buildings, or in makeshift quarters within the school buildings, or in barracks or other buildings not designed for school use.

Table No. 34 shows classroom area. There is no national standard as to the number of square feet of classroom floor space required for each child enrolled. The National Council on Schoolhouse Construction recommends at least 30 sq. ft. of classroom area per pupil for primary and intermediate grades. Other authorities recommend at least 1,000 sq. ft. for elementary classrooms without regard to number of pupils housed.

The size of secondary classrooms varies with the types of activities and instruction. Laboratories and shops are excluded from Table 34.

Less than 7% of Iowa's classrooms have an area of over 900 sq. ft. Approximately 60% of them are less than 700 sq. ft. in size.

See Tables 11 and 21.



TABLE 35

## Use of sub-standard or non-publicly-owned facilities — (all schools).

Type of facility	Elementary		Secondary		Combined		Total	
	No. of schools	No. of pupils	No. of schools	No. of pupils	No. of schools	No. of pupils	No. of schools	No. of pupils
1. In rented quarters or other facilities outside of school buildings .....	6	267	6	285	40	2,121	52	2,673
2. In school-owned barracks buildings or similar structures not designed for school use .....	2	161	3	53	27	1,667	32	1,881
3. In makeshift quarters in buildings designed for permanent school use .....	14	773	0	0	42	2,221	56	2,994
4. In school plants which should be abandoned .....	92	18,948	12	3,899	42	10,332	146	33,179
Total less duplications .....	114	20,149	21	4,237	143	16,341	278	40,727

Over 8% of all school children are housed in facilities that are sub-standard or owned by other agencies than school districts. Over 99% of these are in town and consolidated districts.

Table No. 35 shows 40,727 pupils attending schools that are sub-standard or not publicly owned. Of this number 33,179 are going to 146 school plants that should be abandoned.

Some children are attending classes in church basements, store buildings, school building corridors, on stages, in corners of auditoriums and gymnasiums, in storage rooms, in old town halls, and in many other similar areas

not designed for educational work.

In 1950-51 several kindergartens were closed because of lack of space and 194 children were thus deprived of educational opportunities.

One high school had 130 pupils attending school in triple sessions.

Seven elementary schools had 398 pupils going to school in double sessions.

Three combined schools had other forms of a shortened day to accommodate 170 pupils.

See Tables 13 and 23.



**TABLE 36**  
**Age of school buses — (all schools).**

School buses which are	Number	Percent	National Percent*
Less than 1 yr. old .....	561	16.02	17.76
1-2 years old .....	504	14.39	13.96
2-3 years old .....	367	10.48	14.14
3-4 years old .....	340	9.71	13.50
4-5 years old .....	449	12.82	14.71
5-6 years old .....	616	17.59	6.39
6-7 years old .....	176	5.03	3.34
7-8 years old .....	55	1.56	1.91
8-9 years old .....	2	.06	3.22
9-10 years old .....	28	.80	3.92
Over 10 yrs. old .....	404	11.54	7.15
Total .....	3,502	100.00	100.00

\* Data from 25 states enrolling 11,293,744 pupils.

**TABLE 37**

**Capacity of buses.**

Capacity of bus	60	54	48	45	42	40	36	34	32	30	28	27	26	24	22 or less	Pass. cars
No. in operation..	10	16	469	17	1,296	18	1,209	12	13	184	4	6	7	114	74	53
Percent .....			13.4		37		34.5			5.3				3.3		

Number of pupils transported as public expense:

In privately-owned or common carrier vehicles .....	15,580
In school-owned buses .....	114,256
In jointly-owned buses .....	5,131
(Such as school-owned body and privately-owned chassis)	
Total number of pupils transported ....	134,967

Present value of 3,502 school buses being used \$7,087,906.

Over 28% of all pupils attending public schools in Iowa are transported daily by bus. Of a total of 481,060 pupils enrolled as of March, 1951, 134,967 were being transported. Over 84% of all pupils transported were carried on school-owned buses.

It will be observed from studying Tables 36 and 37 that over 84% of all buses being used have capacities for 48 passengers, 42 passengers, and 36 passengers.

Road conditions and length of routes have much to do

with the capacity of buses used. In some sections of Iowa pupils are still transported in small buses because of hills and dirt roads, and during spring months horse driven vehicles are used.

It is common practice in Iowa to depreciate the value of buses over a seven-year period. On this basis, buses that are more than seven years old are considered of little value. Retention of old buses in service is expensive because of high maintenance and operation. About one bus out of seven now being used exceeds the normal life span cited above and one out of nine is over ten years old.

When children are forced to ride to school in vehicles that are obsolete they are exposed to accident and health hazards because of lack of protection and possible bus failures.

Table 36 shows that Iowa is behind the national average of new buses used, and exceeds the national average on the number of buses ten years old and over being used.



TABLE 38

## School buses needed by September 1952.

Reason needed	No. of Adm. units	No. of new buses needed	Estimated cost of new buses
To replace obsolete publicly-owned equipment .....	294	416	\$1,712,606
To improve and extend service* .....	83	105	436,500
To accommodate new consolidations .....	14	22	63,400
To convert from private contract and common carrier to school- owned buses .....	34	54	231,450
To accommodate increased en- rollments .....	60	72	289,657
Total less duplications	438	669	\$2,733,613

\* Such as shortening routes and providing service to pupils now walking excessive distances.

Administrators have indicated that 669 new school buses would be needed by the fall of 1952 at a total cost of \$2,733,613.



TABLE 39

Recent construction (completed since January, 1945, and occupied prior to March, 1951).

	Elementary	Secondary	Combined Elementary and Secondary	Total
1. New building and major additions:				
a. Number of such units .....	85	13	153	251
b. Number of classrooms in these buildings and additions, including recitation rooms, laboratories, and shops ..	415	55	442	912
c. Total pupil capacity .....	12,455	2,099	14,732	29,283
d. Net increase in pupil capacity resulting from the construction of these units* .....	11,322	1,620	12,334	25,276
2. Rehabilitating and remodeling:				
a. Number of buildings which were rehabilitated and/or remodeled .....	43	6	64	113
b. Number of pupils directly benefited by such improvements .....	7,405	888	9,502	17,795
c. Total cost of such improvements .....	\$754,137.34	\$190,733	\$793,146	\$1,738,016.34

\* This is the capacity shown in Line "c" less the capacity of publicly-owned classrooms abandoned and replaced as a result of the construction of these units.

One look at this Table proves that statement that, "During the past five years very little has been done to provide new facilities, or improve present facilities in the public schools of Iowa."

As of March, 1951 there were under construction in Iowa several buildings and major additions distributed as follows:

33 elementary buildings with a pupil capacity of 8,230; 14 secondary buildings with a pupil capacity of 5,470, and 67 combined elementary-secondary buildings with a pupil capacity of 8,465. Few of these were large projects, 25 were 2 to 3 classroom units, 32 were 4 to 6 classrooms, 26 were 7 to 13 classrooms, 4 were 14 to 20 classrooms and only 8 were of more than 20 classrooms.

Among 285 general use rooms in these buildings and additions are 43 auditorium-gymnasiums, 23 gymnasiums, 14 auditoriums, 39 cafeterias, 21 multi-purpose rooms, 23 libraries, 7 community rooms, 24 nurses' rooms or medical suites, and 91 "other" rooms.



TABLE 40

## Needed facilities in Iowa by the fall of 1952.

## REHABILITATION AND REMODELING NEEDED BY FALL OF 1952

Purpose	No. of schools	Net change in pupil capacity	Estimated cost
Elementary:			
1. To improve facilities now being used:			
a. Instructional spaces .....	24	640	\$ 374,000
b. Non-instructional spaces .....	9		98,250
2. To make idle facilities usable: .....			
a. Instructional spaces .....	21	730	103,350
b. Non-instructional spaces .....	5		62,350
Total elementary .....		1,370	\$ 637,950
Secondary:			
1. To improve facilities now being used:			
a. Instructional spaces .....	9	460	\$ 244,100
b. Non-instructional spaces .....	2		60,000
2. To make idle facilities usable: .....			
a. Instructional spaces .....	2	60	3,000
b. Non-instructional spaces .....	1		1,000
Total secondary .....		520	\$ 308,100
Combined elementary & secondary:			
1. To improve facilities now being used:			
a. Instructional spaces .....	86	2,995	\$1,234,800
b. Non-instructional spaces .....	39		731,225
2. To make idle facilities usable: .....			
a. Instructional spaces .....	12	520	78,000
b. Non-instructional spaces .....	3		4,000
Total combined elementary-secondary .....		3,515	\$2,048,025
Total all schools:			
1. To improve facilities now being used:			
a. Instructional spaces .....	119	4,095	\$1,852,900
b. Non-instructional spaces .....	50		889,475
2. To make idle facilities usable: .....			
a. Instructional spaces .....	35	1,310	184,350
b. Non-instructional spaces .....	8		67,350
Grand total .....		5,405	\$2,994,075



TABLE 41

## New construction needed by fall of 1952.

Type of school	No. of districts involved	No. of pupils*	No. of classrooms	Area in sq. ft.	Estimated cost
Elementary:					
1. New classrooms needed to:**					
(a) Relieve overcrowding .....	72	5,126	186	311,640	\$ 5,409,240
(b) House enrollment increases .....	52	6,880	220	332,340	6,350,880
(c) Replace obsolete buildings .....	81	20,082	669	1,428,400	24,491,680
(d) Total .....		32,088	1,075	2,072,380	36,251,800
2. Needed additions to existing buildings other than classrooms .....	24			120,000	\$ 1,990,000
Secondary:					
1. New classrooms needed to:**					
(a) Relieve overcrowding .....	21	6,205	227	405,780	\$ 6,772,440
(b) House enrollment increases .....	11	1,630	54	97,920	1,622,800
(c) Replace obsolete buildings .....	11	3,863	133	271,960	4,747,600
(d) Total .....		11,698	414	775,660	13,142,840
2. Needed additions to existing buildings other than classrooms .....	24			522,000	\$ 8,285,600
Combined elementary & secondary:					
1. New classrooms needed to:**					
(a) Relieve overcrowding .....	211	22,965	778	1,178,700	\$ 19,815,630
(b) House enrollment increases .....	71	6,780	235	373,950	6,469,960
(c) Replace obsolete buildings .....	42	12,253	440	968,000	16,453,520
(d) Total .....		41,998	1,453	2,520,650	42,739,110
2. Needed additions to existing buildings other than classrooms .....	130			680,880	\$ 11,423,744
Total:					
1. New classrooms needed to:**					
(a) Relieve overcrowding .....		34,296	1,191	1,896,120	\$ 31,997,310
(b) House enrollment increases .....		15,290	509	804,210	14,443,640
(c) Replace obsolete buildings .....		36,198	1,242	2,668,360	45,692,800
(d) Total .....		85,784	2,942	5,368,690	92,133,750
2. Needed additions to existing buildings other than classrooms .....				1,322,880	\$ 21,699,344
Grand total .....		85,784	2,942	6,691,570	\$113,833,094

\* Pupil capacity of needed new construction.

\*\* Including special instruction rooms.



TABLE 42

## Site acquisitions and improvements needed by fall of 1952.

Type of school	No. of school districts involved	Acres needed	Estimated cost
1. Elementary:			
a. New sites and improvements thereto .....	21	129	\$ 190,500
b. Enlargement of existing sites and im- provement of additional land .....	33	137	1,590,500
c. Improvement of existing sites .....	1		8,000
2. Secondary:			
a. New sites and improvements thereto .....	13	297	308,000
b. Enlargement of existing sites and im- provement of additional land .....	17	93	508,500
c. Improvement of existing sites .....	11		271,000
3. Combined elementary and secondary:			
a. New sites and improvements thereto .....	34	311	285,100
b. Enlargement of existing sites and im- provement of additional land .....	74	311	548,925
c. Improvement of existing sites .....	14		71,100
4. Total:			
a. New sites and improvements thereto .....		737	783,600
b. Enlargement of existing sites and im- provement of additional land .....		541	2,566,925
c. Improvement of existing sites .....			350,100
Grand total .....		1,278	\$3,700,625

## SUMMARY OF NEEDS BY FALL OF 1952

● Needed rehabilitation and remodeling .....	\$ 2,994,075
● Needed new construction	
to relieve overcrowding ....	\$31,997,310
to house enrollment	
increases .....	14,443,640
to replace obsolete	
buildings .....	45,692,800
needed additions to	
existing buildings other	
than classrooms .....	21,699,344
	113,833,094
● Needed new sites and site	
improvements .....	3,700,625
● Needed new school buses .....	2,733,613
Total .....	\$123,261,407

The needs listed are probably conservative. Legal financial limitations and present indebtedness of school districts no doubt kept administrators from listing only those needs that were of most critical importance.

If every district were to provide all its needs in order to have a satisfactory school system, many of them would be unable to pay the cost because of the statutory bonded debt limit.

The needs listed here are immediate, now, and make no provisions for the high birth rate during recent years which will swell enrollments for the years ahead.







## CHAPTER V

# State Services



## Chapter V

## VOCATIONAL EDUCATION AND THE LUNCH PROGRAM IN IOWA

The data in this Chapter were not requested in the School Facilities Survey as set up by the U. S. Office of Education but are included in this report as a source of information for individuals who are especially interested in certain educational fields and services.

**The Public School Lunch Program in Iowa**

The National School Lunch Act was passed by Congress in 1946. The administration of this Act is vested in the United States Department of Agriculture. The Secretary of Agriculture is authorized to prescribe requirements for types of lunches, nutritional standards, and records. The Act sets up a formula for the allocation of funds to the several states. This formula operates to give the more prosperous states less money than the less prosperous states, the factors considered being the number of children of school age, and the ratio between the average income in the state and the national average.

The purposes of the Act are:

1. To provide children with a well-balanced, nutritious, adequate lunch at reasonable cost.
2. To assist with the stabilization of the Agricultural Commodity Market by distribution and use of surplus commodities by school lunch programs.

The Department of Public Instruction determines the basis upon which the schools will be approved and administers the program as per a Federal-State Agreement. Any public, private, or parochial school, of high school grade, or under, is eligible to participate in this program if a need for this program can be shown. The local school must meet certain minimum nutrition and operating requirements, must guarantee to conform to all state and local regulations concerning sanitation and health standards, must provide the necessary equipment, must guarantee that there will be no segregating of pupils, must not refuse to serve

foods to pupils who are unable to pay, and must operate the program on a non-profit basis.

Three types of lunches are approved:

Type A — A complete lunch which meets  $\frac{1}{3}$  to  $\frac{1}{2}$  a child's daily nutritional requirements.

Type B — An incomplete lunch intended to be supplemented by a partial lunch brought from the pupils' home.

Type C —  $\frac{1}{2}$  pint of whole milk as a beverage.

Federal assistance to the lunch program is through a cash reimbursement made every year and through donated commodities. The 54th General Assembly of Iowa legalized the program by authorizing any school district to operate or provide for the operation of a non-profit school lunch program. This gives each school district the right to purchase school lunch equipment and pay for operating costs out of the General Fund.

In 1951-52 98 counties participated in the program.

1,008 public and 100 private and parochial schools had lunch programs.

An average of 145,674 children were served daily during the school year, the participation being highest in December when the average was 153,967 daily.

Approximately 2,000 women were employed as cooks. Federally-donated commodities to Iowa schools totaled \$479,969.

174 programs are conducted from homemaking facilities.

(This is not recommended as it hinders both the homemaking program and the lunch program. If schools desire a kitchen and a lunch room, they should not crowd them into quarters used by other departments.

The school lunch program is here to stay and all future building programs must include this as one of its prime factors.

Many schools at the present time need a lunch program but have no facilities. Many other schools have the lunch facilities in basement rooms, in homemaking areas, in halls, and in out-of-the-way places that are undesirable and inadequate.



TABLE 43

## Summary of school lunch operations in Iowa.

School year	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52
Number of schools serving lunches .....	791	799	851	919	988	1,008
Federal funds for reimbursement .....	\$1,023,405	\$ 768,995	\$ 902,066	\$1,050,523	\$ 871,082	\$ 914,372
State funds for administration .....	26,000	37,000	37,000	38,700	38,700	38,700
Income:						
Payment for lunches .....	\$1,913,395	\$2,775,536	\$3,396,291	\$4,015,140	\$4,393,000	\$5,033,343
Total income including goods and services .....	3,073,707	3,735,579	4,603,596	5,491,778	5,760,499	6,475,666
Expenditures:						
Food .....	\$1,942,587	\$2,370,089	\$2,626,672	\$2,924,106	\$3,603,934	\$4,102,273
Total expenditures including labor and equipment .....	3,023,903	3,659,839	4,284,110	4,991,010	5,885,260	6,372,256
Number of lunches served .....	13,920,005	16,879,857	17,880,962	20,486,204	22,617,481	23,487,455
Number of lunches served free or at reduced cost .....	740,848	638,823	715,747	877,564	939,185	745,970

CHART 19

## Percent of growth in number of Iowa schools serving lunches under the National Lunch Act.

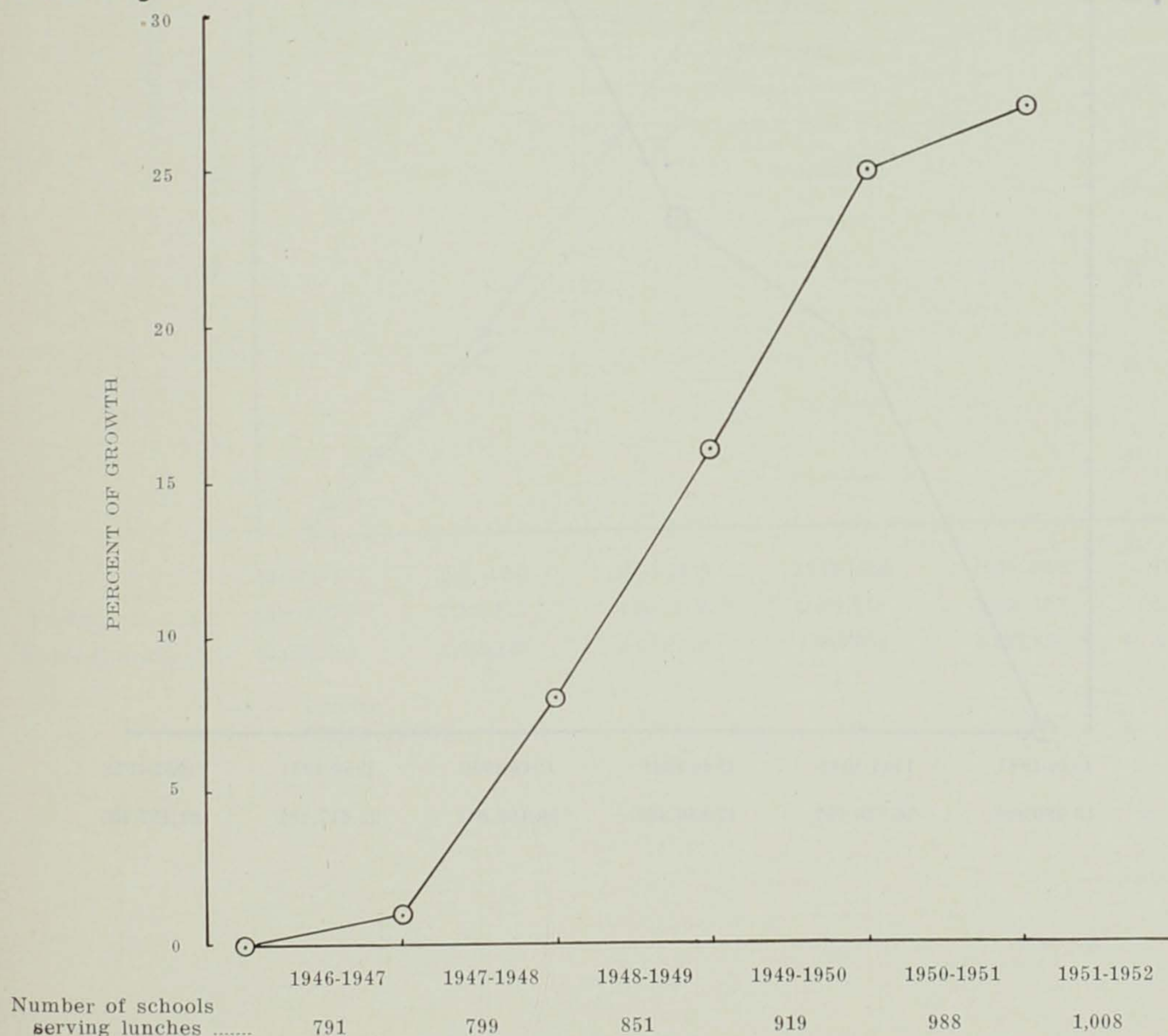




CHART 20

Percent of growth in number of lunches served to Iowa pupils under the National Lunch Act.

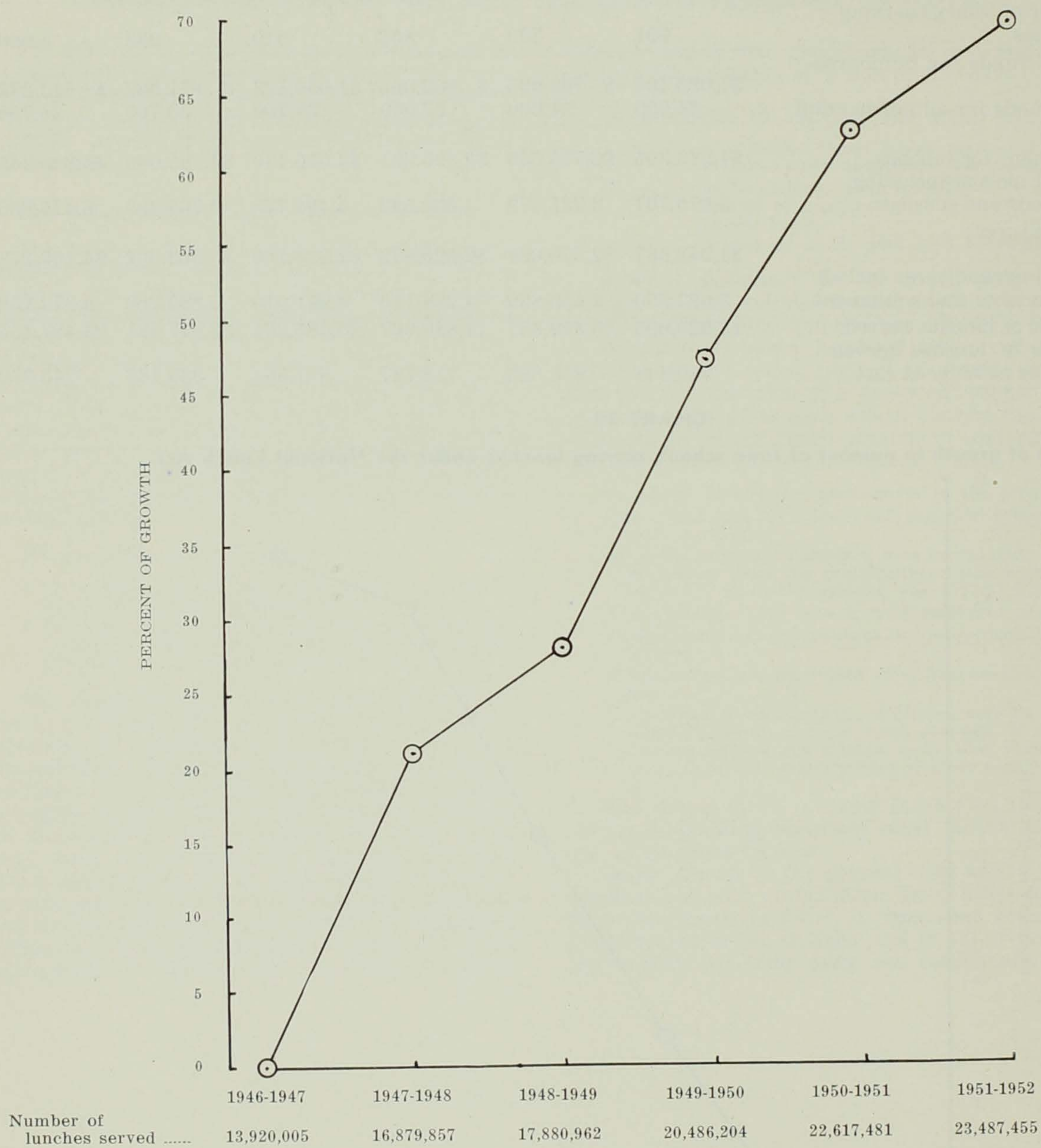
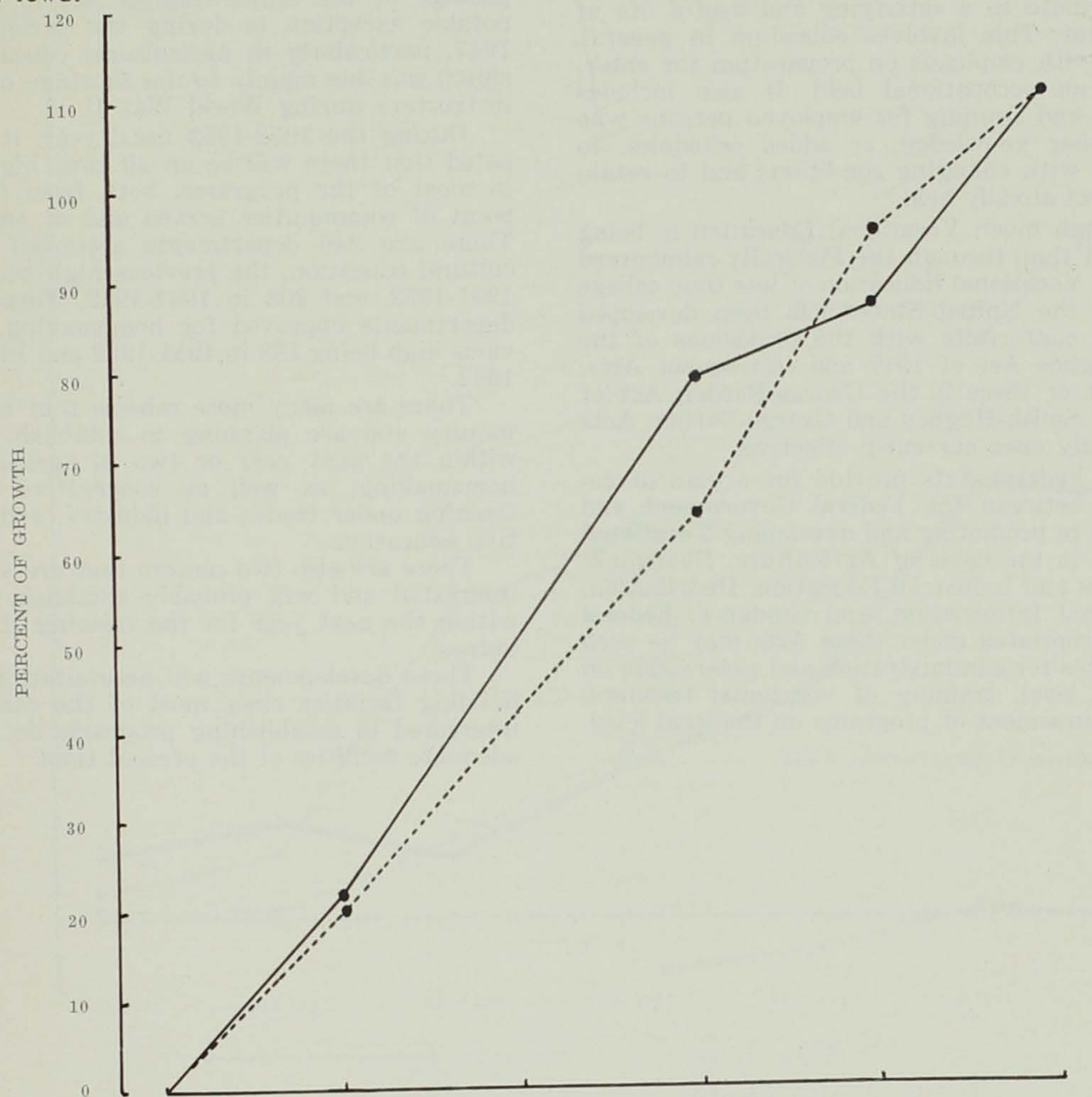




CHART 21

Percent of growth of income and expenditures involved in operating the National Lunch Program in Iowa.



	1946-1947	1947-1948	1948-1949	1949-1950	1950-1951	1951-1952
Income.....	\$3,073,707	3,735,579	4,603,596	5,491,778	5,760,499	6,475,666
Expenditures.....	\$3,023,903	3,659,839	4,284,110	4,991,010	5,885,260	6,372,256

— Income  
 - - - Expenditures



### Vocational Education in Iowa

"Vocational Education on the secondary level includes any and all knowledge and training that will contribute to a satisfying and useful life of employment. This involves education in general, together with emphasis on preparation for entering into an occupational field. It also includes education and training for employed persons who need further knowledge, or added schedules, to keep pace with changing conditions and to retain employment already held."<sup>1</sup>

Although much Vocational Education is being done other than through the Federally reimbursed programs, Vocational Education of less than college degree in the United States has been developed largely in conformity with the provisions of the Smith-Hughes Act of 1917 and subsequent Acts. The latest of these is the George-Barden Act of 1946. The Smith-Hughes and George-Barden Acts are the only ones currently effective.

These Federal Acts provide for a plan of co-operation between the Federal Government and the States in promoting and developing Vocational Education in the fields of Agriculture, Homemaking, Trades and Industrial Education, Distribution, Occupational Information, and Guidance. Federal funds appropriated under these Acts may be used in the States for administration and supervision on the State level, training of vocational teachers, and reimbursement of programs on the local level.

<sup>1</sup> Vocational Education for American Youth.

As indicated on Chart No. 22, and Tables 44 and 45 there has been a gradual growth in the vocational education programs in Iowa since the passage of the Smith-Hughes Act in 1917. One notable exception is during the period 1942 to 1947, particularly in agricultural education. This slump was due mainly to the shortage of qualified instructors during World War II.

During the 1952-1953 fiscal year, it is anticipated that there will be an all time high reached in most of the programs, both from the standpoint of communities served and of enrollments. There are 240 departments approved for agricultural education, the previous high being 223 in 1951-1952, and 203 in 1941-1942. There are 191 departments approved for homemaking, the previous high being 188 in 1951-1952 and 187 in 1941-1942.

There are many more schools that have made inquiry and are planning to establish programs within the next year or two in agriculture and homemaking, as well as cooperative part-time training under trades and industry, and distributive education.

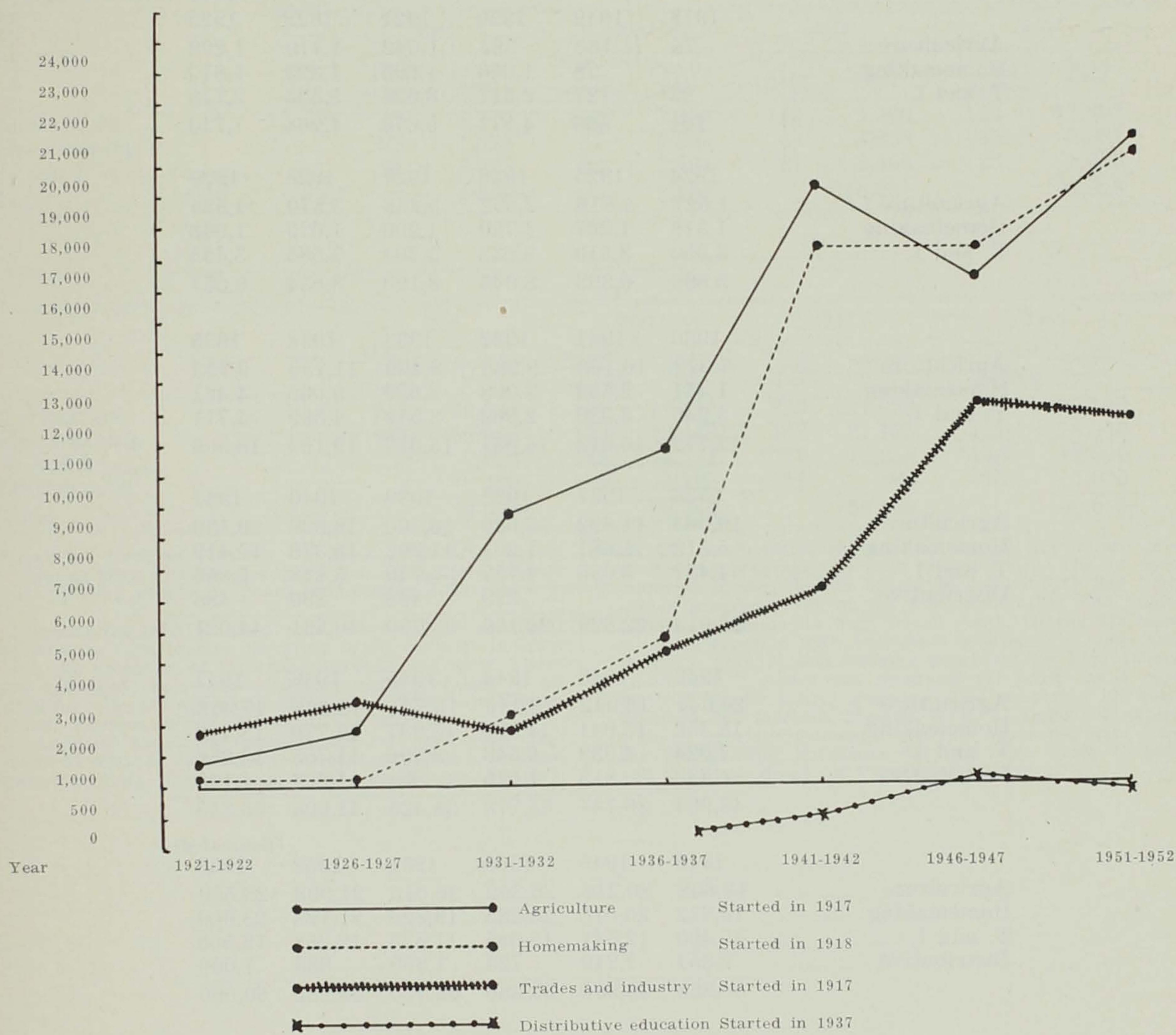
There are also two centers that are very much interested and will probably establish programs within the next year for the training of practical nurses.

These developments will necessitate additional building facilities since most of the communities interested in establishing programs do not have adequate facilities at the present time.



## CHART 22

Enrollments in vocational education programs in Iowa from 1917 to 1952.

Number  
enrolled



**TABLE 44**  
**Enroliments Each Year in Vocational Education Programs in Iowa —**  
**1917-1952**

	1918	1919	1920	1921	1922	1923
Agriculture .....	78	160	594	1,042	1,110	1,202
Homemaking .....		78	1,060	1,605	1,323	3,810
T. and I. ....	23	127	2,517	3,028	2,535	2,718
	101	365	4,171	5,675	4,968	7,730
	1924	1925	1926	1927	1928	1929
Agriculture .....	1,527	1,816	2,692	3,286	3,870	4,524
Homemaking .....	1,319	1,267	1,720	1,200	1,079	1,038
T. and I. ....	3,050	3,310	3,633	3,704	3,585	3,495
	5,896	6,393	8,045	8,190	8,534	9,057
	1930	1931	1932	1933	1934	1935
Agriculture .....	7,372	10,100	9,980	9,469	11,750	9,733
Homemaking .....	1,451	2,584	3,208	2,629	3,005	4,461
T. and I. ....	3,949	3,329	2,863	3,519	4,399	4,711
	12,772	16,013	16,051	15,617	19,154	18,905
	1936	1937	1938	1939	1940	1941
Agriculture .....	10,064	11,892	13,929	16,360	18,828	20,159
Homemaking .....	5,513	5,681	7,201	11,202	15,376	17,419
T. and I. ....	4,437	5,055	4,737	5,740	5,818	5,955
Distributive .....			299	488	299	488
	20,014	22,628	26,166	33,790	40,321	44,021
	1942	1943	1944	1945	1946	1947
Agriculture .....	20,044	15,942	13,115	10,731	12,268	17,418
Homemaking .....	18,356	15,941	14,590	15,037	15,770	18,449
T. and I. ....	7,024	4,039	6,548	8,796	11,758	13,356
Distributive .....	480	815	1,525	861	1,208	1,123
	45,904	36,737	35,778	35,425	41,004	50,346
	1948	1949	1950	1951	1952	(Estimated) 1953
Agriculture .....	19,502	20,216	23,202	20,010	21,998	23,500
Homemaking .....	19,632	20,016	23,225	19,826	21,123	23,000
T. and I. ....	15,400	12,541	12,085	11,525	12,258	12,500
Distributive .....	2,354	1,210	724	1,359	883	1,000
	56,888	53,983	59,236	52,720	56,262	60,000



TABLE 45

Enrollments each fifth year since passage of Smith-Hughes act and number of Iowa communities offering vocational programs — Period 1917-1952.

	1922		1927		1932		1937	
	Number Com- munities	Enroll- ment	Number Com- munities	Enroll- ment	Number Com- munities	Enroll- ment	Number Com- munities	Enroll- ment
Agriculture .....	47	1,110	116	3,286	113	9,980	129	11,892
Homemaking .....	28	1,323	57	1,200	63	3,208	85	5,681
T. and I. ....	21	2,535	23	3,704	27	2,863	23	5,055
Total .....		4,968		8,190		16,051		22,628

	1942		1947		1952		1953	
	Number Com- munities	Enroll- ment	Number Com- munities	Enroll- ment	Number Com- munities	Enroll- ment	Number Com- munities	Enroll- ment
Agriculture .....	203	20,044	161	17,418	223	21,998	240	23,500
Homemaking .....	187	18,356	174	18,449	188	21,123	191	23,000
T. and I. ....	39	7,024	*148	13,356	*138	12,258	*140	12,500
Distributive .....	4	480	7	1,123	11	883	15	1,000
Total .....		45,904		50,346		56,262		60,000

\* Includes foreman, fireman, R. E. A., industrial safety training done with Extension Service, Iowa State College cooperating with State Board for Vocational Education.

During the 1952-1953 fiscal year, there will be vocational agriculture departments operating in all counties in Iowa with the exception of Dubuque, Marshall and Mills. There are vocational homemaking departments operating in all counties with the exception of Dubuque, Marshall, Winne-shiek, Johnson, Worth, Wapello, and Monroe.

Attention should be called to the fact that some communities reported as having vocational programs have them only for adults. For example, for the fiscal year 1951-1952,

all 223 communities reported as having agriculture programs had programs for high school youth. The 11 communities in distributive education (estimated) had high school programs. 182 of the 188 communities had home-making programs for high school youth. Of the 138 communities reported with vocational programs in trade and industry, only 31 had training programs for high school youth, and 2 others had programs for adults as a part of their regular school programs. The remaining 105 communities had foreman, fireman, R. E. A., industrial safety training provided through a program sponsored jointly by the Engineering Extension Service, Iowa State College and the State Board for Vocational Education.







## CHAPTER VI

# Summary



## Chapter VI

### PERTINENT POINTS

(A Summary)

- In 1950-51 there were 835 public school districts in Iowa maintaining high schools. There were 281 school districts that had a high school average daily attendance of less than 50 pupils, and 591 districts with less than 100 pupils in average daily attendance. The median high school average daily attendance in all high schools was 66.4 pupils, and the average high school average daily attendance was 125.1 pupils.
- 70 percent of the districts maintaining high schools with an average daily attendance of less than 100 pupils, house only 30 percent of the total high school ADA of the state. In other words 30% of the high schools are educating 70% of the pupils. There is one high school with an average daily attendance of less than 10 pupils, and 22 high schools with less than 20 pupils.
- There will be an increase in elementary enrollment until about 1959-60 when it is estimated there will be 103,613 more pupils in kindergarten to 8th grade than in 1946-47. This will mean a need for an extra 3,500 grade classrooms. This "wave" of youngsters will strike the high schools in 1956-57.

#### Rural Elementary

- In 1935-36 there were 9,018 rural one-room schools open enrolling 130,089 pupils. In 1950-51 there were 4,628 schools open enrolling 68,995 pupils.
- In 1951 there were 3,021 one-room rural schools that were closed, many of them having been idle for several years.
- Decreased birth rates in some rural areas, changes in school organization, migration of rural population toward industrial centers, and better transportation facilities have caused many rural schools to be closed. At the same time it has caused some areas to be congested, especially around industrial areas.
- In 1950-51 there were 14 more consolidated schools than in 1935-36—a slow change.
- 94% of all rural school buildings are combustible and have but one classroom. 98% of them are only one-story high.
- 78% of all rural plants (4,240) housing 65,055 pupils have outside toilets. 71% of the buildings have no fixed washing facilities.
- 12% of all rural schools are on sites of less than one acre, while 98% are on sites of less than three acres.
- Over 75% of Iowa's rural schools are over 50 years old. 73% (61,005) of the rural enrollments attend school in these old buildings.
- 82% of all rural classrooms have less than 20 pupils in enrollment in each room.
- 1,396 rural pupils are going to school in quarters that are sub-standard. Four schools involving 166 pupils are so crowded that the children are attending school in two shifts, half of them in the forenoon and half in the afternoon.

#### Town and Consolidated Schools

- 44% of all the buildings attended by 52% of all pupils are rated as fire-resistive.
- The majority of pupils attend classes in structures housing 14 or more classrooms.
- 80 elementary schools or 17% out of 463 have special rooms for art; 50% of the high schools have such facilities, and only 8% of the combined schools have these special rooms.
- Only 17% of these schools have a medical suite or a nurse's room or a room with cots and first-aid supplies for the sick or injured. 37% of the schools have their own bus garages. 55% have music rooms. 53% have science laboratories.
- Only 50% of the schools have shower facilities. 98% either have their own septic tanks or are connected to a municipal system.
- 73% of the elementary schools, 58% of the secondary schools, 33% of combined elementary and secondary schools own sites of less than 3 acres. Only 10% of the elementary plants are on sites of five acres or more as recommended by site experts. 10 acres is recommended as a minimum site for high schools and combined schools, but only 17% of Iowa high schools and 7% of the combined schools measured up to that standard.
- 61% of all school plants housing 58% of all the children going to town and consolidated schools are over 30 years old. 15% of these are over 50 years of age. Only 4% of all schools are as new as 12 years of age, which shows that there has been little school construction done in Iowa during the past ten years or more.
- 10% of all town and consolidated schools (131) housing 31,939 pupils are obsolete and should be replaced at once.



- In some districts pupils attend school in double shifts. Triple shifts are used in one school to take care of the large number of pupils enrolled.
- 2,550 pupils attend school in rented quarters outside of the school buildings; 2,961 attend in make-shift quarters in buildings designed for school use, and 1,881 attend school in barracks or buildings not designed for school use.
- In 1950-51 several kindergartens were closed because of lack of space.

#### All Schools

- Only 11% of all school buildings are fire-resistant, 11% semi-fire resistive and 76% are combustible.
- 78% of all school buildings housing 21% of all pupils are one-story high. 48% of all secondary buildings housing 48,749 pupils are three stories high.
- 73% of all one-story buildings are combustible.
- Iowa is not up to the national average in its number of shops, laboratories, homemaking rooms, music rooms, art rooms, and business education rooms, but does exceed the national average in number of libraries, cafeterias, gymnasium and auditorium facilities.
- Less than half the schools have mechanical ventilation.
- Only 1½% of elementary school sites in Iowa measure up to the standard of 5 acres. 84% of all elementary buildings are on sites of from 1 to 2.9 acres. 58% of secondary schools are on sites of less than 3 acres.
- 47% of all pupils or 327,361, go to schools on sites of less than 3 acres.
- 62% of all school buildings are over 50 years old as compared with 16% national figures.
- In Iowa 63% of all pupils go to school in buildings over 31 years in age, compared to 27% national figures.
- The majority of Iowa's children are attending classes in old buildings on small sites.
- Most Iowa high schools are in buildings housing also the elementary grades. Out of 771 such buildings, 442 of them are composed of 7 to 13 classrooms.
- There are few large school plants in Iowa. 23% of Iowa's children are housed in school buildings having 21 or more classrooms. The national average is 32%.
- 23% of all national school plants were rated as satisfactory but in Iowa only 17% were so rated. In reversing the picture it is found that 35% of the nation's pupils were housed in satisfactory plants while in Iowa 53% of the children were housed in satisfactory plants.
- About 60% of the classrooms in Iowa contain less than 700 sq. ft. It is recommended that there be at least 1,000 sq. ft. in regular classrooms.
- Some children are going to school in store buildings, in church basements, in barracks, in corridors, on stages, in homes, and in many other similar areas not designed for school use.
- 404 school buses over 10 years old are being used to help transport children to school.
- 134,967 pupils or 28% of all pupils attending public schools were transported in 1950-51 in 3,502 school buses. 84% of the buses are school-owned.
- 669 new school buses were needed by the fall of 1952, at an approximate cost of \$2,733,613.
- There is an immediate need in Iowa for a rehabilitation and remodeling program of school buildings approximating a cost of \$2,994,075.
- 2,942 new classrooms are needed by September, 1952, to relieve overcrowding, to replace obsolete buildings, and to house enrollment increases.
- Approximately 1,300 more acres of land are needed for new sites and to enlarge and improve present sites.
- The total cost of needs for Iowa schools in new construction, new buses, and the improvement of present facilities runs over \$123,000,000.
- The legal debt limit in Iowa hinders many school districts from providing needed school facilities.
- School lunch programs in Iowa schools are at an all-time high with an average of 145,674 pupils served daily in 1951-52 in 1,008 public and 100 parochial and private schools. This means kitchens, storage rooms, and eating spaces must be provided.
- The growth in vocational education necessitates additional building facilities. Adequate shops, homemaking rooms, and special areas demand larger school sites and new or expanded spaces for these services.
- Greater demands on school facilities in Iowa can be expected with the increased birth rate.

#### States and Territories included in the First Progress Report of the National Survey:

Alabama	Mississippi
Arkansas	Nebraska
Connecticut	North Carolina
Delaware	Oregon
Florida	Tennessee
Georgia	Texas
Indiana	Vermont
Kentucky	West Virginia
Louisiana	Wisconsin
Maine	Alaska
Maryland	Hawaii
Michigan	Puerto Rico
	Virgin Islands

All the above States and Territories are included in comparisons made in Charts 13, 14, 15, 16, 17, 18, and Table 28.



1. The first part of the paper is devoted to a general discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The author discusses the various theories of the origin of life, from the spontaneous generation of life from non-living matter to the theory of the origin of life from pre-existing life. The author concludes that the most probable theory is the theory of the origin of life from pre-existing life.

2. The second part of the paper is devoted to a detailed discussion of the theory of the origin of life from pre-existing life. The author discusses the various stages of the evolution of life, from the first appearance of life to the present day. The author concludes that the theory of the origin of life from pre-existing life is the most probable theory.

3. The third part of the paper is devoted to a discussion of the various theories of the origin of life. The author discusses the theory of spontaneous generation, the theory of the origin of life from non-living matter, and the theory of the origin of life from pre-existing life. The author concludes that the most probable theory is the theory of the origin of life from pre-existing life.

4. The fourth part of the paper is devoted to a discussion of the various theories of the origin of life. The author discusses the theory of spontaneous generation, the theory of the origin of life from non-living matter, and the theory of the origin of life from pre-existing life. The author concludes that the most probable theory is the theory of the origin of life from pre-existing life.

5. The fifth part of the paper is devoted to a discussion of the various theories of the origin of life. The author discusses the theory of spontaneous generation, the theory of the origin of life from non-living matter, and the theory of the origin of life from pre-existing life. The author concludes that the most probable theory is the theory of the origin of life from pre-existing life.

6. The sixth part of the paper is devoted to a discussion of the various theories of the origin of life. The author discusses the theory of spontaneous generation, the theory of the origin of life from non-living matter, and the theory of the origin of life from pre-existing life. The author concludes that the most probable theory is the theory of the origin of life from pre-existing life.

7. The seventh part of the paper is devoted to a discussion of the various theories of the origin of life. The author discusses the theory of spontaneous generation, the theory of the origin of life from non-living matter, and the theory of the origin of life from pre-existing life. The author concludes that the most probable theory is the theory of the origin of life from pre-existing life.

8. The eighth part of the paper is devoted to a discussion of the various theories of the origin of life. The author discusses the theory of spontaneous generation, the theory of the origin of life from non-living matter, and the theory of the origin of life from pre-existing life. The author concludes that the most probable theory is the theory of the origin of life from pre-existing life.

9. The ninth part of the paper is devoted to a discussion of the various theories of the origin of life. The author discusses the theory of spontaneous generation, the theory of the origin of life from non-living matter, and the theory of the origin of life from pre-existing life. The author concludes that the most probable theory is the theory of the origin of life from pre-existing life.

10. The tenth part of the paper is devoted to a discussion of the various theories of the origin of life. The author discusses the theory of spontaneous generation, the theory of the origin of life from non-living matter, and the theory of the origin of life from pre-existing life. The author concludes that the most probable theory is the theory of the origin of life from pre-existing life.



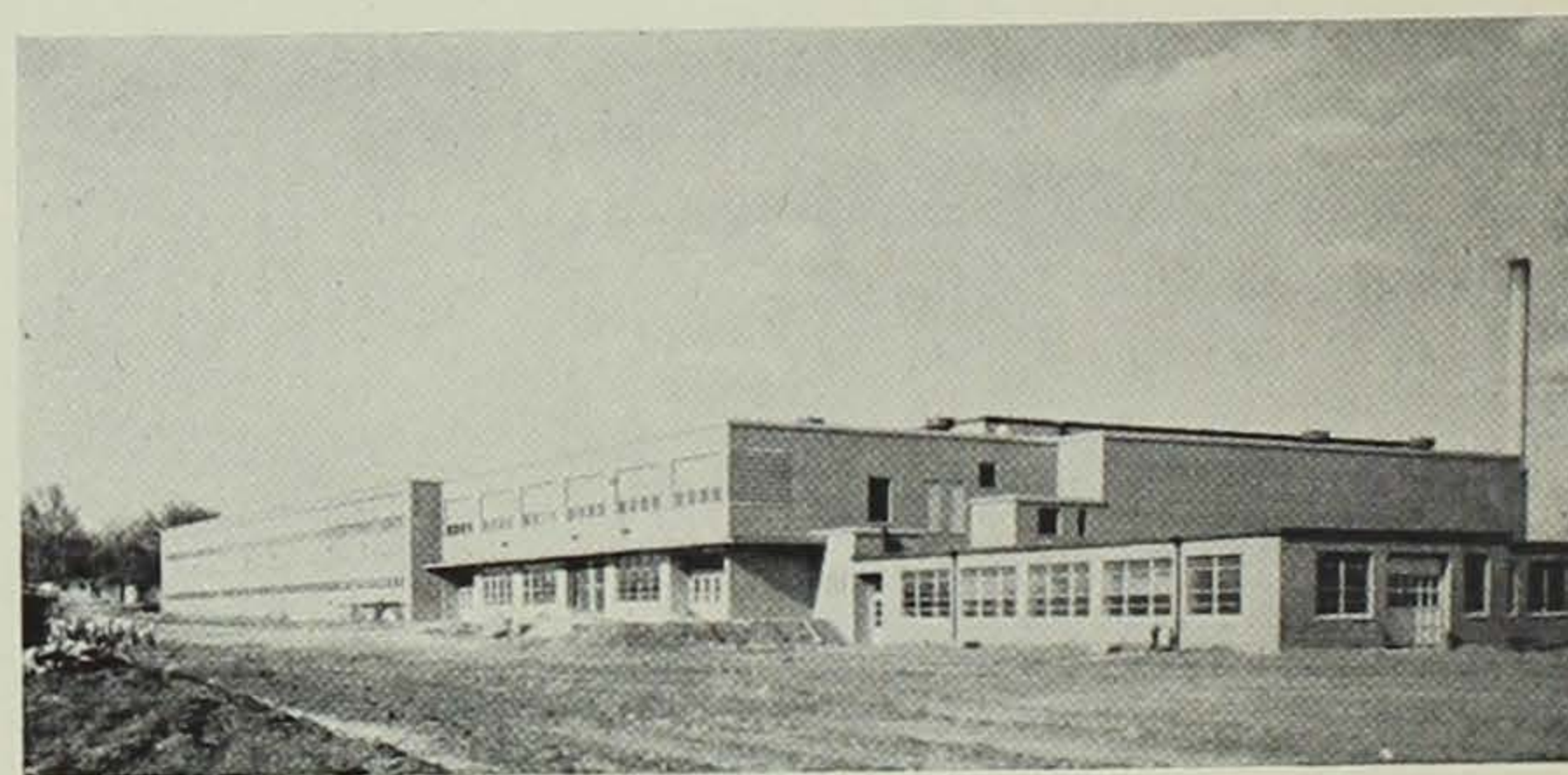
# **Some School Buildings In Iowa**



**THE OLD AND THE NEW**  
**in**  
**HIGH SCHOOL BUILDINGS**



Built in 1895. Additions in 1914, 1915 and 1930. 49% fire-resistant. On a site of one city block. 1, 2, and 3 stories high.



Built 1951-52. On a site of 30 acres which is now being developed. All fire-resistant. 1 and 2 stories high.



**SOME TYPICAL TOWN AND CONSOLIDATED SCHOOLS IN IOWA**

The typical town or consolidated school building in Iowa is two to three stories high, houses both the grades and the high school, is on a site of less than 5 acres and is either fire-resistive or semi-fire-resistive. Many have lower

floors that are half basement, with half-windows for natural lighting. 44% of the buildings of this group are fire-resistive and house 52% of the children. 16% of the buildings are combustible.

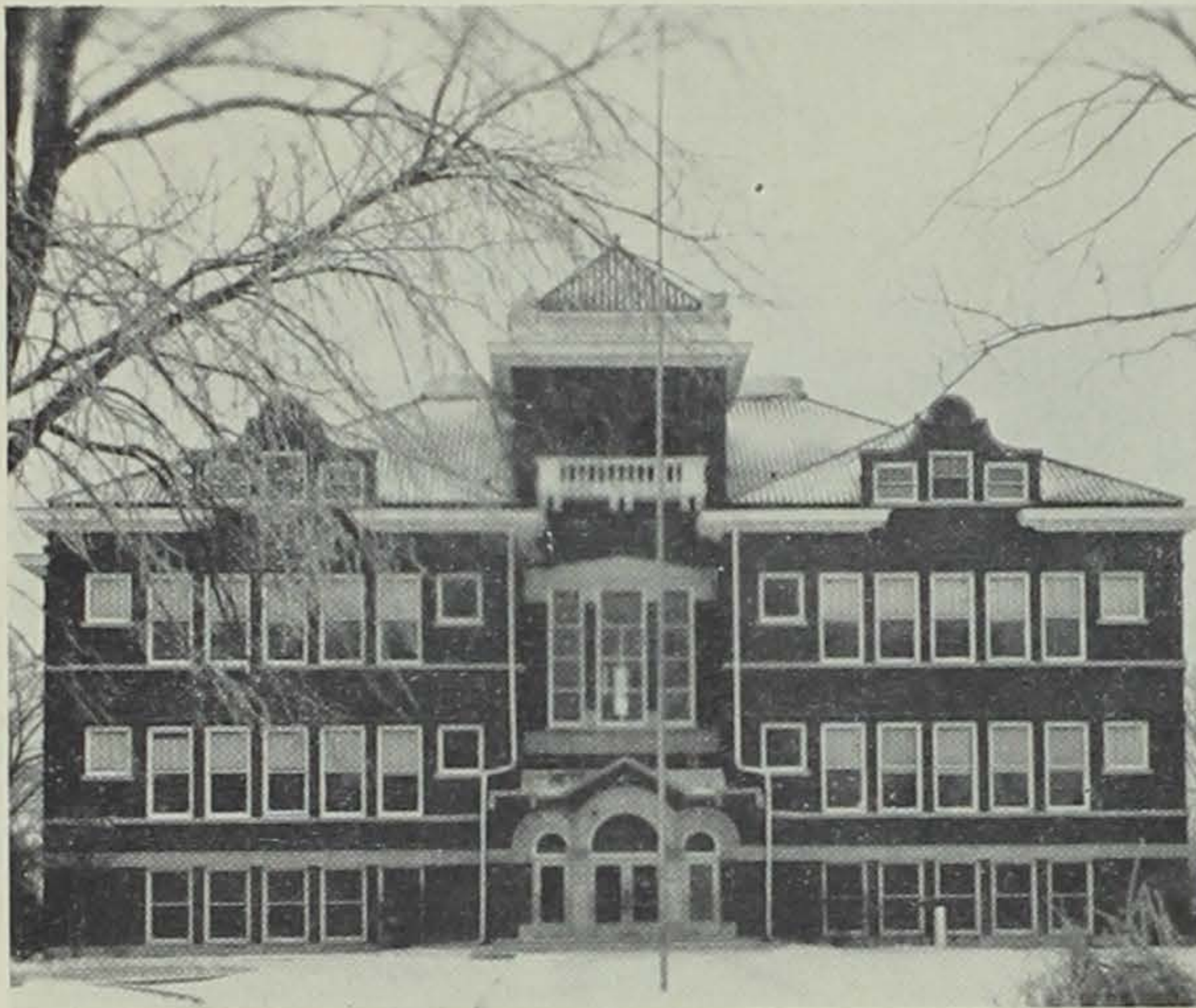


Consolidated school. Built before 1920.



Consolidated school with practically all pupils transported. Built before 1920. Bus barn built between 1930-39.





Independent School. Built before 1930.



Iowa still has some buildings like this. Built before 1920. Houses less than 120 grade and high school pupils. Combustible. Small site.



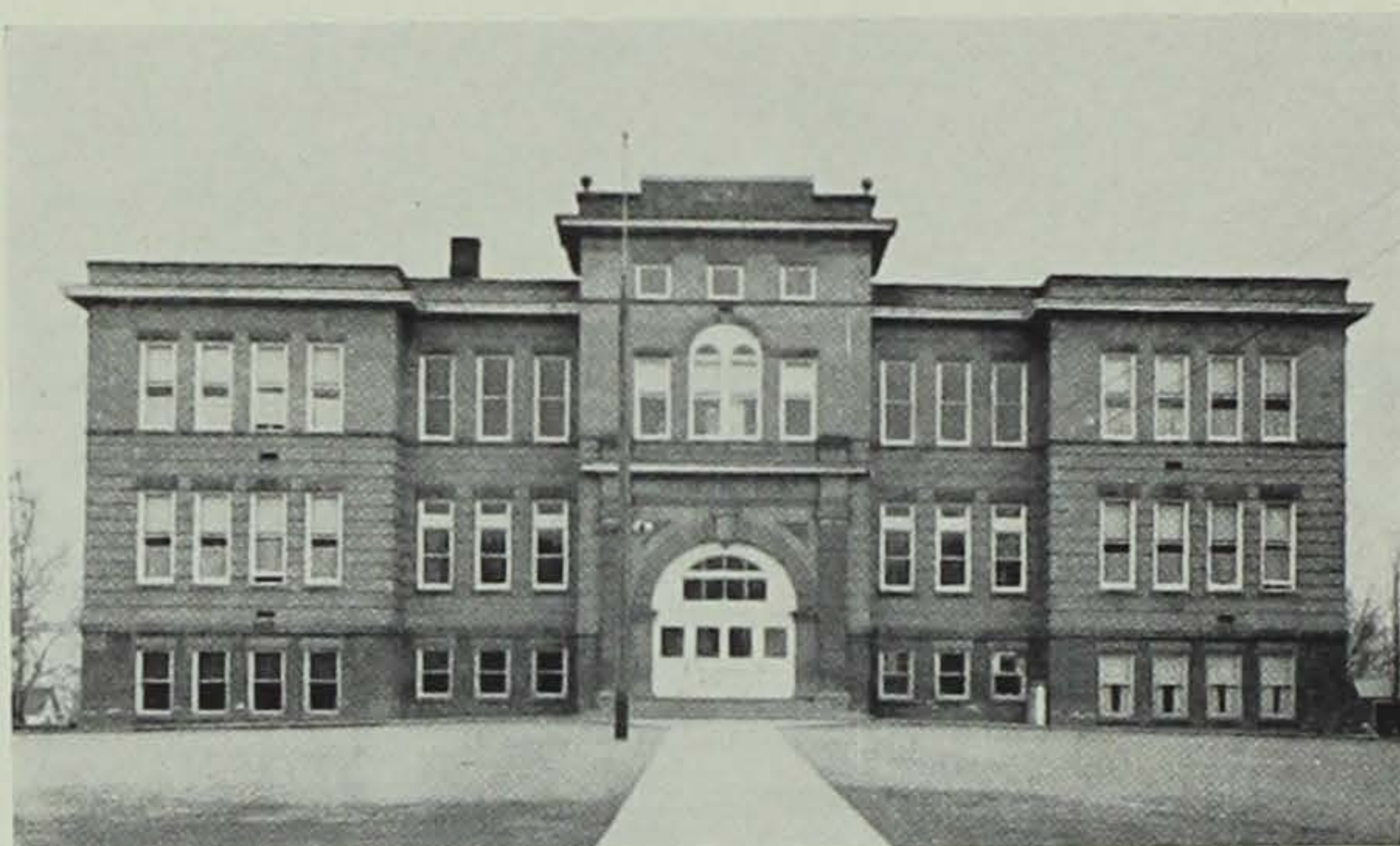
ONE SCHOOL DISTRICT IS SO CONGESTED THAT IT IS COMPELLED TO RENT BUILDINGS LIKE THE TWO PICTURED ON THIS PAGE TO TAKE CARE OF SOME OF THE PUPILS.





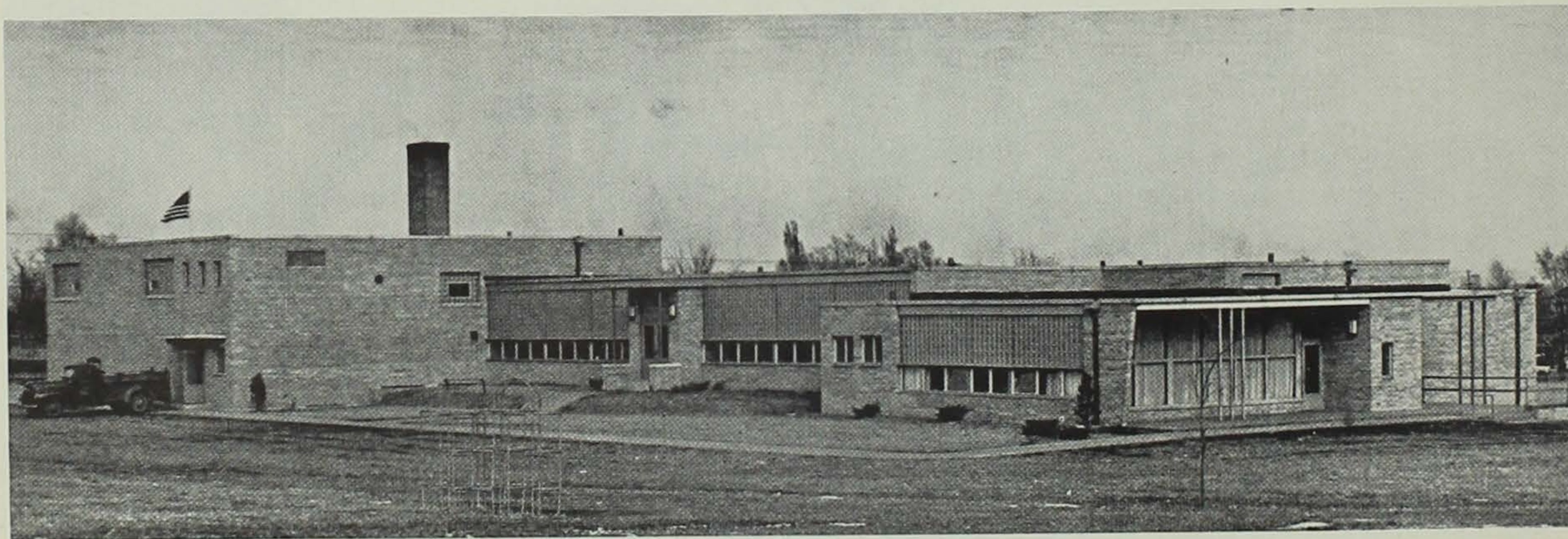
## WHAT'S NEW IN ELEMENTARY SCHOOL BUILDINGS

1907



Combustible. One block site surrounded by four streets, gravel playground.

1951-52



Built in 1951 on a ten-acre site. The building includes a little theater, a room for handicapped children, a gymnasium-auditorium, an art room, speech room, teacher's room, principal's office with a conference room besides the regular classrooms.



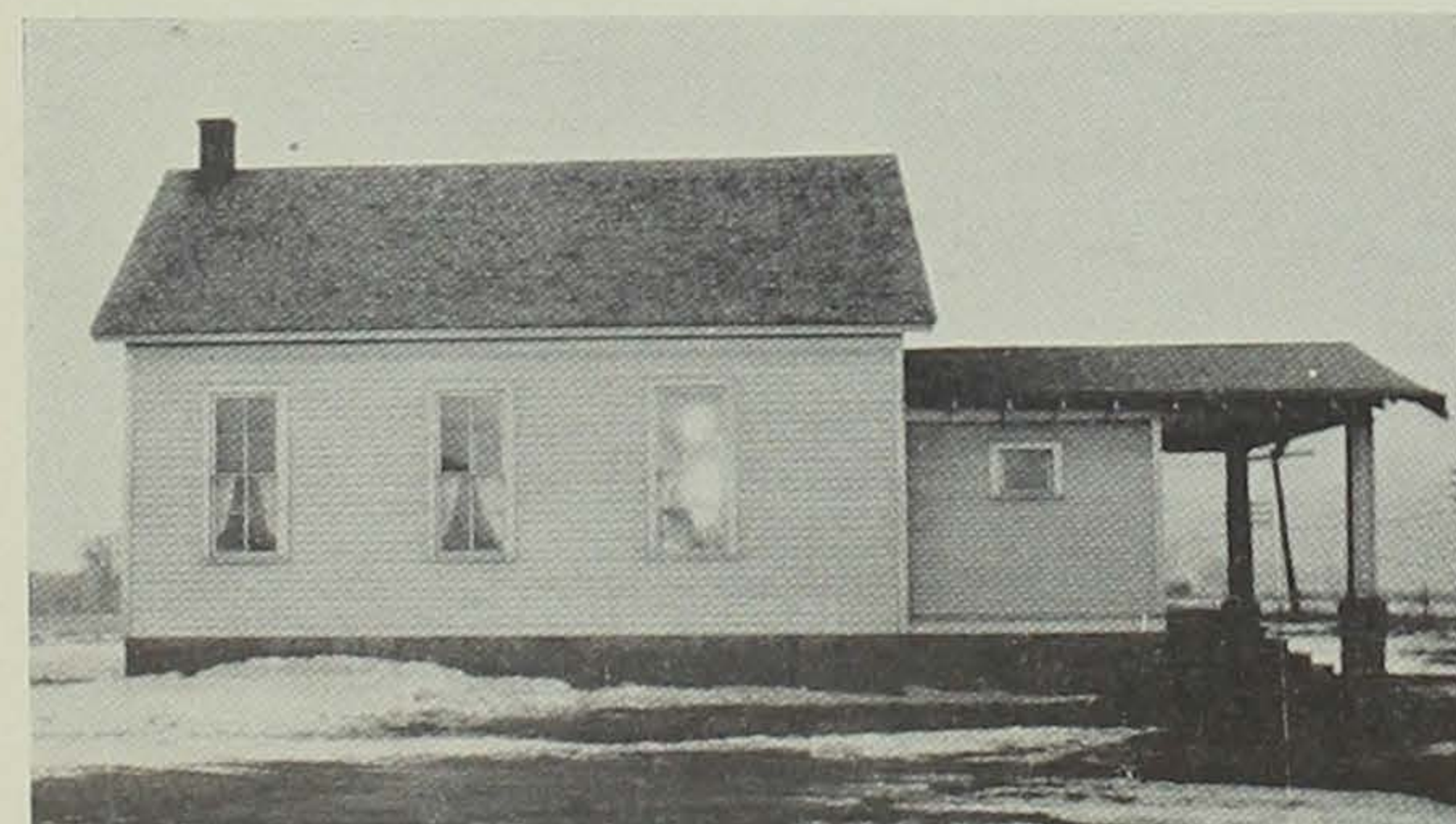
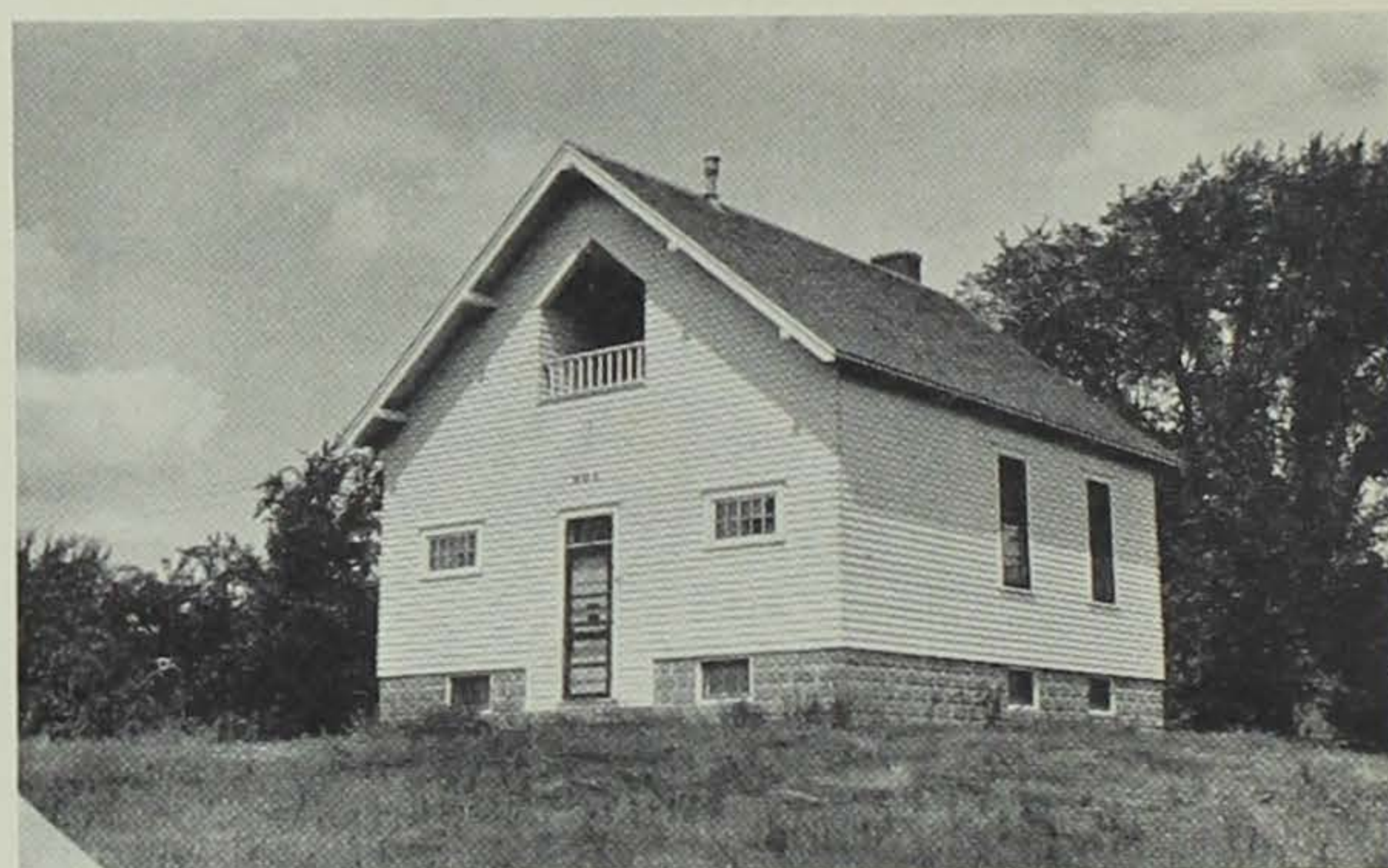
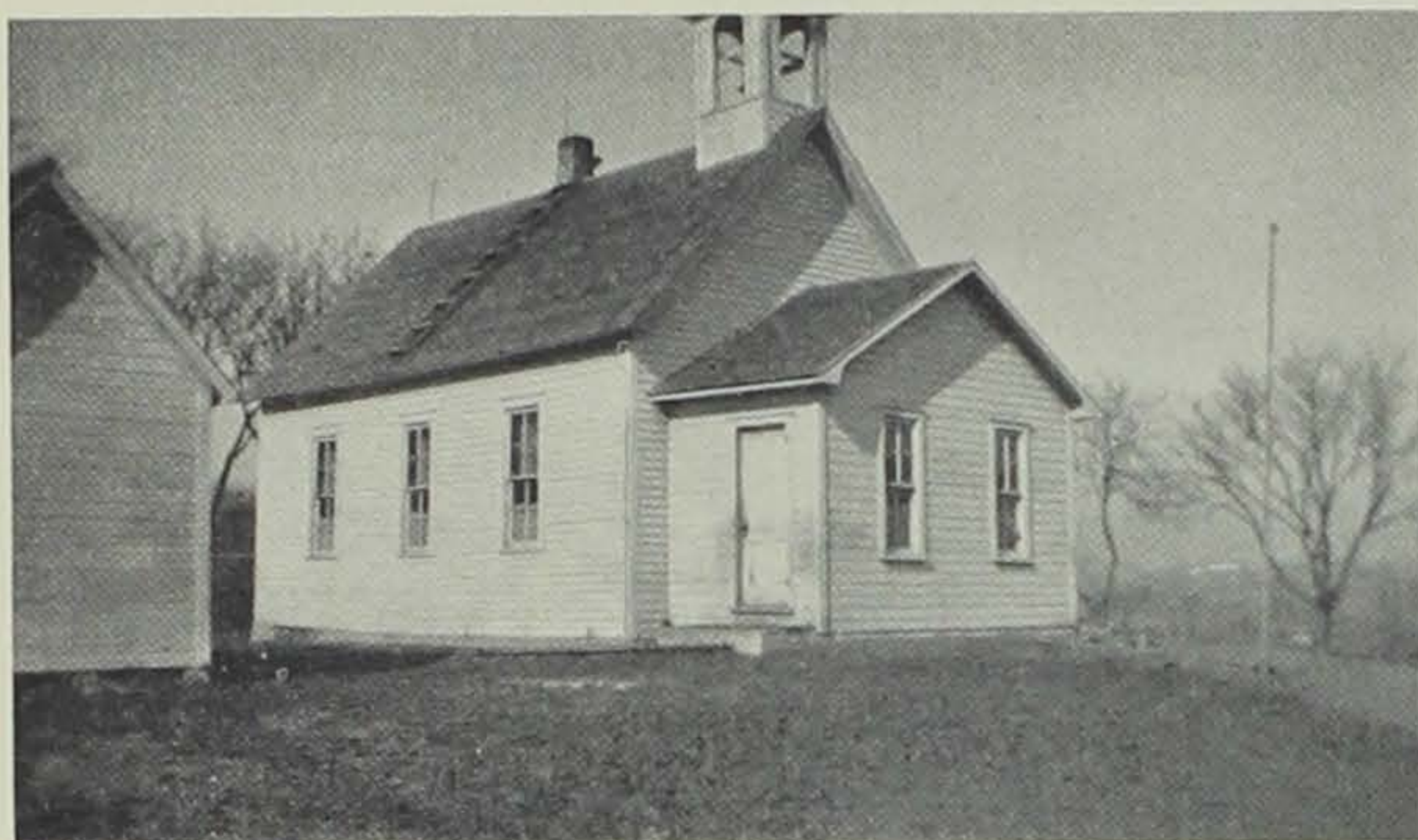
1951-52



This building is on a small site. It includes a kindergarten, six grade rooms, a music room, a multi-purpose room for cafeteria, physical education, and auditorium purposes, a principal's office, and four rooms for the 7th and 8th grades.

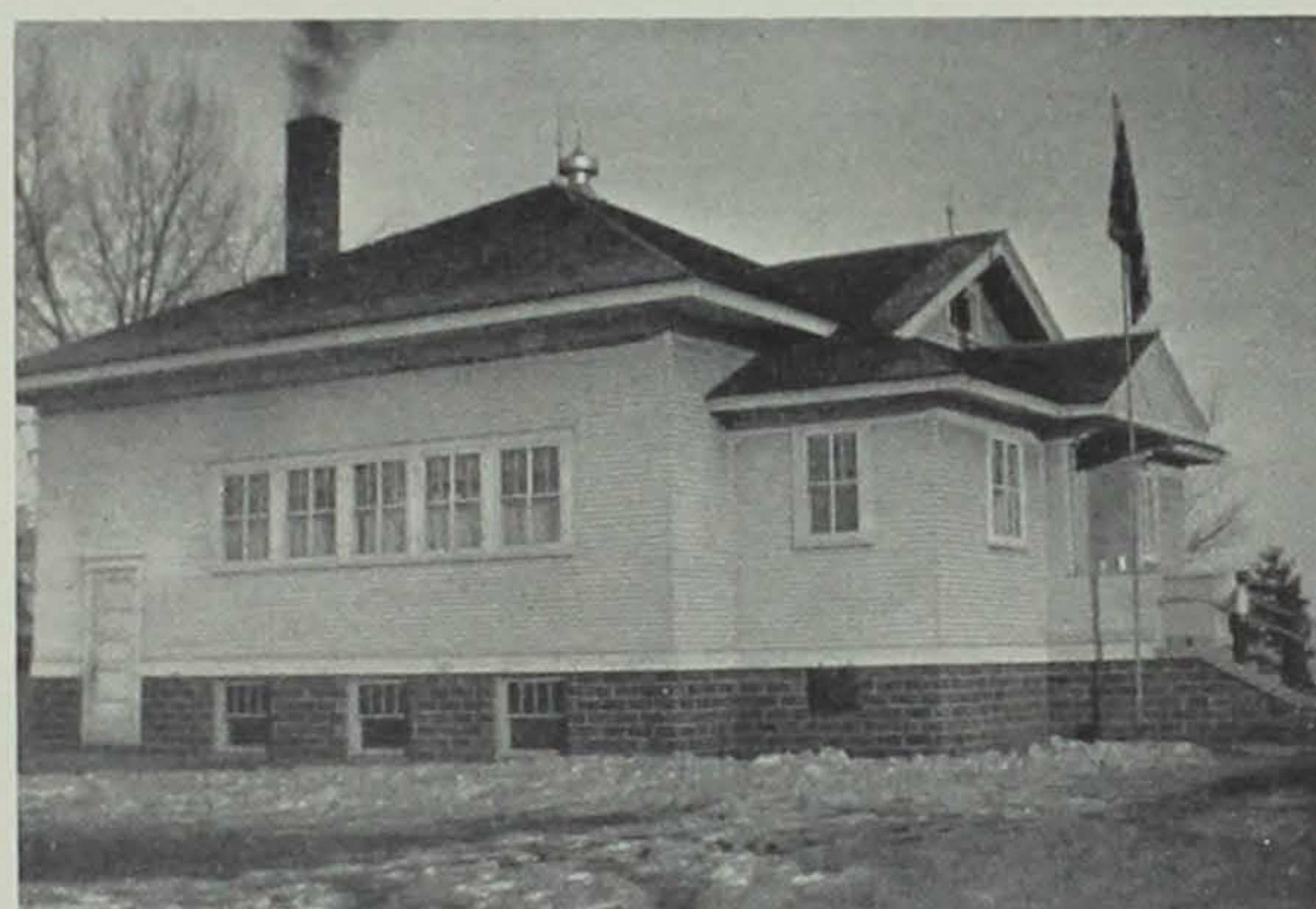


**SOME TYPES OF SCHOOL BUILDINGS BEING USED IN THE RURAL  
DISTRICTS OF IOWA**





**ADDITIONAL PICTURES SHOWING SOME TYPES OF SCHOOL  
BUILDINGS BEING USED IN THE RURAL DISTRICTS OF IOWA**







Some Iowa Counties have improved their rural schools like the one pictured above.







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