

# MONOGRAPH 4

## Assistance on School Plant Problems as a Function of State Departments of Education

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## Foreword

When, by the tenth amendment of the Federal Constitution, there were left to each State of the Union the right and the responsibility to organize its educational system as it saw fit, the way was opened for establishing the beginnings of State policy with reference to public education. Moreover, the grants of land made for educational purposes and the creation of school funds, in the use of which local districts shared, brought early into the educational picture some form of State regulation. The receipt of aid from the State was accompanied by the necessity of making reports to the State, and this in turn evolved into compliance with other State demands as well. As a result, State officials were appointed to receive reports from the school corporations and to deal with them in matters relating to the apportionment of funds and other items of State policy.

The early duties of the officers thus appointed were largely clerical, statistical, and advisory with reference to the application of the State school law. But out of them grew the comprehensive structure of the modern State education department, with its chief State school officer acting in many cases as executive officer of the State board of education. Today myriad responsibilities of administrative, supervisory, and advisory services replace the original simple functions of tabulation of records and management of funds. State educational administration has become a challenging opportunity for exercising constructive leadership in the State's educational affairs.

Because of the individual authority of each State for its own educational program, practices and policies differ widely among them in many respects. Yet in the midst of differences there are also common elements of development. The U. S. Office of Education, in presenting this series of monographs, has attempted to point out those common elements, to analyze the differences, and to present significant factors in State educational structure. In so doing, it accedes to the requests of a large number of correspondents who are students of State school administration and who have experienced the need for the type of material offered in this series.

The sources of information have taken the form of both documentary evidence and personal interviews. During the year 1939, more than 20 representatives of the Office of Education were engaged in visiting State education departments throughout the country, conferring in each case with the chief State school officer and his assistants. Working in "teams" of from 2 to 7 persons, they spent several days in the State offices of the respective States, seeking accurate and comprehensive data, gathering all available printed or mimeographed documents, and securing from each member of the department who was available an oral statement of his duties, activi-



ties, and problems. Preceding this program of visitation and again preceding the compilation of reports, committees of chief State school officers met in Washington with members of the Office of Education staff, to assist in the drafting of plans, and later in the formulation of conclusions. No effort was spared, either at the time of the visits or in studying and checking data subsequent thereto, to make of the final report for each State a reliable document.

The topics considered in the series include problems of administrative organization and relationships, financial control and assistance, legislative and regulatory standards, and various types of supervisory services. Each has been studied from the point of view of past developments and of organization existing at the time of the visit to the State. For some fields of activity a State-by-State description is given of policies, problems, and practices. For some, selected States are used as examples, with a summary of significant developments and trends in all States. The total series, it is hoped, will prove to be a helpful group of publications relating to the organization and functions of State education departments and of the boards of education to which they are related.

The report included in the present monograph deals with the kind of assistance given by State departments of education with regard to school plant problems. Until comparatively recently State departments of education did little to assist local communities on school plant problems. However, such assistance has become an increasingly important part of State department work because (1) there has been a steadily growing recognition of the relationship of the functional planning of school buildings to the development of a well-rounded, modern curriculum; (2) the importance of adequate standards for lighting, ventilation, heating, etc., is more widely recognized; and (3) the movement toward large centralized schools instead of small one- and two-room buildings requires technical advice and direction which many local communities are not in a position to furnish. To describe the organization and functions of school building work in State departments is the aim of this bulletin.

To the chief State school officers, to members of their respective staffs, and to other State officials who have assisted in furnishing data for this series of monographs, the U. S. Office of Education expresses its deepest appreciation. Without their wholehearted cooperation the publication of the series could not have been realized. The entire project is an example of coordinated action, both on the part of Office of Education staff members who have participated in it and on the part of State officials who gave so generously of their time and effort to supply the needed information and materials.

BESS GOODYKOONTZ,  
*Assistant U. S. Commissioner of Education.*



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## Chapter I

### Organization of School Building Work in State Departments of Education

**T**HE ORGANIZATION of the work on school buildings in State departments of education is divided into three categories: First, there are 22 State departments of education in which one or more members of the staff in the State department give all of their time to school building work with funds allocated specifically for that purpose. Second, there are 18 State departments in which school building work is allocated to some State department official or officials having other duties in addition to the work on school buildings. Third, there are 8 State departments in which it is reported that no one is responsible for school building work.

#### Organization in 22 State Departments

The 22 State departments of education in which staffs varying from one to nine members give all their time to school building work with funds allocated specifically for that purpose are as follows: Alabama, Arkansas, California, Connecticut, Florida, Georgia, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Wisconsin.

In 19 of these State departments school building work is carried on under what is known as either a "division of school buildings" or a "school building service." In 3 States no specific title was given for the work except for the title of the director who, with the members of his staff, gives all his time to this work. The relation of the school building work to the organizational set-up of the State departments in the 22 States is given in table 1 and in charts, as reported by State superintendents of public instruction. (See appendix A for charts.)

An examination of the charts indicate that in 13 State departments the school building work is in a division or service under the direction of a school building director who is directly responsible to the State superintendent or through the assistant superintendent to the State superintendent. In 7 State departments the director of the school building division or service is responsible to the head of another division or department in the State department. In 2 States in which there is no specific title for the work on school buildings, the supervisor or inspector of school buildings is directly responsible to the head of another division or department in the State department.



**Table 1.—Location of school building work in organization of 22 State departments of education having a school building division or school building service**

State	Title of person in charge of school building work	Name of division or service	Official of department to whom director of school building work is responsible
1	2	3	4
Alabama.....	Director.....	Division of surveys and schoolhouse planning.	Division of administration and finance.
Arkansas.....	do.....	Division of school plant.....	Assistant commissioner.
California.....	do.....	Division of schoolhouse planning.	Assistant superintendent.
Connecticut.....	Assistant supervisor of buildings and plans.	.....	Department of instruction.
Florida.....	Director.....	School plant planning service.....	Division of administration and finance.
Georgia.....	Supervisor.....	Division of schoolhouse construction.	State superintendent.
Kentucky.....	Director.....	Division of school buildings and grounds.	Do.
Louisiana.....	Construction supervisor.	.....	.....
Michigan.....	Director.....	Division of school plant.....	Instruction and educational planning division.
Minnesota.....	do.....	Division of buildings and business administration.	State commissioner.
Mississippi.....	do.....	School building service.....	Assistant superintendent.
Missouri.....	do.....	do.....	Administrative service.
New Jersey.....	Inspector of school buildings.	.....	Division of business affairs.
New York.....	Director.....	Division of school buildings and grounds.	Department of instructional supervision.
North Carolina.....	do.....	Division of schoolhouse planning.	State superintendent.
Oklahoma.....	do.....	do.....	Assistant superintendent.
Pennsylvania.....	do.....	Division of school plant.....	Bureau of school administration.
South Carolina.....	do.....	Division of schoolhouse planning.	State superintendent.
Tennessee.....	do.....	Division of schoolhouse planning and transportation.	Assistant commissioner.
Texas.....	Assistant superintendent of school plants.	Division of school plant.....	State superintendent.
Virginia.....	Director.....	Division of school building construction.	Do.
Wisconsin.....	Supervisor.....	School building service.....	Department of supervision.

### Personnel for Work on School Buildings

In each of 2 State departments, New York and Virginia, there are 9 people assigned to school building work; in Pennsylvania, 5 people; in South Carolina, 4 people; in Alabama, California, Florida, Georgia, Minnesota, Mississippi, North Carolina, Oklahoma, Tennessee, Texas, and Wisconsin, respectively, 3 people; and in Arkansas, Kentucky, Michigan, Missouri, and New Jersey, 2 people are assigned

to this work. In only 2 States, Connecticut and Louisiana, where the work has only recently been begun, is the staff limited to one person (table 2).

The kind of workers on these school building staffs is as follows: Six States have a school building director and clerical workers; six States have a school building director, clerical workers and an assistant; six States have a school building director, clerical workers, and an architect or draftsman; two States have a school building director, clerical workers, assistants, and architects. Two States have directors only.

**Table 2.—Size of staff and budgets for school building divisions or school building service in 22 State departments of education**

State	Director	Assist- ant	Arch- itects	Drafts- men	Clerical	Total	Budget
1	2	3	4	5	6	7	8
<b>Total</b>	<b>22</b>	<b>11</b>	<b>9</b>	<b>4</b>	<b>26</b>	<b>72</b>	<b>\$157,101</b>
Alabama	1		1		1	3	10,820
Arkansas	1				1	2	5,700
California	1		1		1	3	13,000
Connecticut	1					1	3,334
Florida	1		1		1	3	(1)
Georgia	1	1			1	3	2,700
Kentucky	1				1	2	8,000
Louisiana	1					1	(2)
Michigan	1				1	2	4,200
Minnesota	1			1	1	3	(1)
Mississippi	1					1	7,800
Missouri	1	1			1	3	(1)
New Jersey	1				1	2	5,125
New York	1		1		4	6	28,825
North Carolina	1	3			2	6	9,282
Oklahoma	1	1			1	3	4,500
Pennsylvania	1		1	2	1	5	(3)
South Carolina	1	2			1	4	8,650
Tennessee	1			1	1	3	7,890
Texas	1	1			1	3	6,725
Virginia	1	1	4	(4)	3	9	27,000
Wisconsin	1	1			1	3	7,550

(1) No division budget as such.

(2) Not given.

(3) Part-time draftsmen employed when necessary.

## Budgets

The total budgets for these divisions or services on school buildings were given for 17 States. In 1938 the budgets amounted to \$157,101. Three States, Florida, Minnesota, and Missouri, reported that there were no separate division budgets as such but that the funds were allocated from other divisions. Two States, Louisiana and Pennsylvania, did not give the amount of the budgets. The minimum budget of the 17 States that reported on this item was \$2,700 in Georgia for a staff of 3 people, and the maximum budget was \$27,000 in Virginia for a staff of 9 people. Twelve of the 17 departments had budgets of \$5,000 or more for school building work.



### Total Number of School Buildings and Capital Outlay

These figures are significant in view of the school plant problem in these States, i. e., the number of buildings, the enrollment in those buildings, and the capital outlay for rural areas in these 22 States in 1938.

For example, in rural areas in these 22 States there were in 1938, 122,929 school buildings to accommodate 8,954,917 pupils.<sup>1</sup> The capital outlay in these 22 States for 1938 was \$76,125,247. The capital expenditure for school buildings in that year in these 22 States varied from a minimum of \$408,405 in Oklahoma to \$13,454,836 in New York State. Twelve of the States expended more than \$2,000,000 on school buildings in that year (table 3).

**Table 3.—Total number of school buildings, capital outlay, and enrollment in 22 States having a school building division or a school building service.<sup>1</sup>**

State	Total number of school buildings in rural areas, 1938	Capital outlay in rural areas, 1938	Enrollment in rural areas, 1938
1	2	3	4
<b>Total</b> .....	<b>122, 929</b>	<b>\$76, 125, 247</b>	<b>8, 954, 917</b>
Alabama.....	4, 273	1, 323, 148	495, 954
Arkansas.....	4, 510	1, 180, 655	359, 325
California.....	6, 809	8, 215, 792	321, 897
Connecticut.....	592	( <sup>2</sup> )	80, 002
Florida.....	<sup>3</sup> 1, 874	1, 367, 027	<sup>3</sup> 209, 651
Georgia.....	5, 698	1, 032, 127	514, 019
Kentucky.....	7, 243	936, 390	468, 484
Louisiana.....	3, 320	4, 111, 338	326, 972
Michigan.....	6, 966	2, 789, 783	306, 156
Minnesota.....	7, 905	2, 708, 182	274, 227
Mississippi.....	4, 795	8, 310, 321	503, 387
Missouri.....	9, 574	1, 929, 429	387, 303
New Jersey.....	1, 045	2, 258, 243	117, 564
New York.....	8, 375	13, 454, 836	498, 048
North Carolina.....	8, 918	4, 031, 336	653, 359
Oklahoma.....	5, 313	408, 405	428, 796
Pennsylvania.....	8, 827	3, 680, 281	722, 788
South Carolina.....	3, 144	982, 755	370, 598
Tennessee.....	5, 584	1, 462, 532	452, 011
Texas.....	11, 145	9, 994, 543	770, 580
Virginia.....	4, 898	3, 446, 890	420, 546
Wisconsin.....	7, 621	2, 501, 244	273, 250

<sup>1</sup> U. S. Office of Education Bulletin 1940, No. 2, Ch. II, Statistics of State School Systems, 1937-38.

<sup>2</sup> Connecticut data for rural areas are incomplete.

<sup>3</sup> Estimated. Florida under county system.

Considering the magnitude of the work involved in overseeing the school building construction, maintenance, and repairs for the number of pupils and number of buildings just enumerated, it is not surprising that 15 State departments in these 22 States reported that they considered both the size of staff and the budgets not sufficient to carry on the work adequately. The additional staff needed as reported by 15 State departments varied from one to seven people. The addi-

<sup>1</sup> Data are estimated for Florida, since this State is under a county system.



tional budgets needed as reported by each of 10 State departments varied from \$6,000 to \$25,000, or a total of \$124,232 for 10 States (table 4).

**Table 4.—Estimates of additional staff and budgets needed in the school building division or school building service in 15 State departments of education**

State	Additional staff needed		Total budget needed
	Type	Number	
1	2	3	4
<b>Total</b> .....		<b>41</b>	<b>\$124,232</b>
Alabama.....	Building inspector, assistant architect, draftsman <sup>1</sup>	3	15,000
Arkansas.....	2 draftsmen, 1 field director	3	7,200
Connecticut.....	Assistant and inspector	2	9,000
Florida.....	Supervisor of construction	1	
Georgia.....	2 draftsmen <sup>1</sup>	2	10,000
Louisiana.....	Director, draftsman, stenographer	3	10,000
Michigan.....	Architect or engineer	1	6,000
Mississippi.....	Engineer, landscaper, draftsman, secretary	4	
Missouri.....	Architect	1	
New York.....	Building cost expert, maintenance engineer	2	
North Carolina.....	Draftsman, landscaper	2	14,232
Pennsylvania.....	( <sup>1</sup> )	7	
South Carolina.....	( <sup>1</sup> )	4	18,000
Tennessee.....	Draftsman, engineer, 3 fieldmen <sup>1</sup>	5	25,000
Wisconsin.....	1 assistant	1	9,750

<sup>1</sup> Plus clerical workers.

<sup>1</sup> Type not specified.

### Organization in 18 State Departments in Which the Work on School Buildings Is Allocated to State Department Officials Having Other Duties in Addition to School Buildings

In 18 State departments the work on school buildings is allocated to State department officials having duties other than responsibility for school buildings. In 6 States the work is allocated either to the State superintendent, assistant superintendent, or both. The amount of time was reported either as "relatively small," "recently not a great deal," or not specified except in the case of Washington where it was reported that the assistant superintendent gave 60 percent of his time to the work.

In 1 State the deputy commissioner and architect were reported to have charge of the work. The deputy commissioner gave one-fourth of his time and it was reported that the architect gave 80 percent of his time.

In four States it was reported that assistant directors of instruction or research dealt with school building matters. The time given to the work in two of the States was reported as 10 and 20 percent. Three States reported that the work was allocated to (1) the "head of the finance division and assistant director of elementary and high-school inspection," (2) "the high-school vocational supervisor, assistant director, and others," and (3) "the agent for rural education." One State reported that "advisory work is given by different



members of the department," and 1 State reported that an architect was employed by the State department to examine and review specific buildings on a fee basis (table 5).

**Table 5.—Persons appointed to take charge of school building work in State departments not having school building divisions or school building service** <sup>4</sup>

State	Persons appointed to take charge of school building work	Approximate time given to school building work	Total number of school buildings in rural areas, 1938 <sup>1</sup>	Capital outlay in rural areas, 1938 <sup>1</sup>	Enrollment in rural areas, 1938 <sup>1</sup>
1	2	3	4	5	6
<b>18 STATE DEPARTMENTS IN WHICH SCHOOL BUILDING WORK IS ALLOCATED TO OFFICIALS HAVING OTHER DUTIES</b>					
Arizona.....	Advisory work by different members of department.	Not given.....	614	\$680,102	62,801
Delaware.....	State superintendent.	Small part.....	244	23,298	22,859
Idaho.....	Assistant superintendent.	5 to 8 percent.....	1,179	926,243	74,646
Illinois.....	Private architect.	Some time.....			
Indiana.....	Assistant superintendent.	Not given.....	11,956	7,656,372	418,293
	Head of finance division and assistant director of elementary and high school inspection.	Very little time.....	2,597	2,436,072	330,683
Kansas.....	Advisory service to State architect. <sup>2</sup>	Not given.....	8,937	2,078,945	228,388
Maine.....	Agent for rural education.	One-sixth.....	1,978	171,923	102,420
Maryland.....	Architect employed by State department for specific buildings.	Not given.....	1,203	2,232,283	143,370
Nevada.....	Regional deputy superintendents approve plans for school buildings in accordance with laws of sanitation, etc.	do.....	260	159,093	11,783
New Mexico.....	Assistant director of instruction.	10 percent.....	1,194	585,019	95,103
North Dakota.....	State superintendent and deputy superintendent.	Not a great deal.....	4,544	364,568	123,011
Ohio.....	High-school vocational supervisor, assistant director, and others.	Varies; part-time job.....	3,449	8,678,727	432,527
Oregon.....	Director of school of administration and secondary education.	20 percent.....	1,945	1,340,721	90,172
Rhode Island.....	Assistant director of education.	Not given.....	109	262,788	12,343
Utah.....	Assistant superintendent.	do.....	533	568,921	73,233
Vermont.....	Deputy commissioner.	One-fourth.....	1,225	162,299	48,466
Washington.....	Architect.	80 percent.....			
West Virginia.....	Assistant superintendent.	60 percent.....	1,739	573,550	152,732
	Director of Research.	Not given.....	5,118	835,192	339,605
<b>Total.....</b>			<b>48,824</b>	<b>\$39,736,116</b>	<b>2,768,435</b>
<b>8 STATE DEPARTMENTS IN WHICH NO ONE IS DESIGNATED FOR SCHOOL BUILDING WORK</b>					
Colorado.....			2,474	370,474	107,642
Iowa.....			11,221	1,800,029	309,876
Massachusetts.....			634	42,250	90,662
Montana.....			2,825	424,566	74,770
Nebraska.....			7,014	474,437	182,091
New Hampshire.....			645	405,848	37,352
South Dakota.....			4,573	850,044	111,347
Wyoming.....			1,366	606,157	35,697
<b>Total.....</b>			<b>39,752</b>	<b>4,975,804</b>	<b>949,437</b>
<b>Grand total.....</b>			<b>79,576</b>	<b>\$34,711,920</b>	<b>2,717,872</b>

<sup>1</sup> U. S. Office of Education. Statistics of State School Systems, 1937-38. Washington, U. S. Government Printing Office, 1940. Bulletin 1940, No. 2, ch. II.

<sup>2</sup> Responsibility for school building work in Kansas is with State architect. The State superintendent gives suggestions when plans are submitted to him by the State architect.

### **Number of School Buildings, Capital Outlay, and Enrollment**

The total number of school buildings in rural areas in these 18 States in 1938 was 48,824. The amount of capital outlay in those 18 States in 1938 was \$29,736,116. This capital outlay varied from a minimum of \$23,298 in Delaware to a maximum of \$8,678,727 in Ohio. Five of these 18 States expended \$2,000,000 or more on school buildings in 1938.

The enrollment in rural areas in these 18 States in 1938 was 2,768,435. The minimum was 11,783 in Nevada and the maximum 432,527 in Ohio (table 5).

Of these 18 State departments of education, 9, Arizona, Idaho, Illinois, Indiana, New Mexico, North Dakota, Ohio, Oregon, and Washington reported that they considered that it would be desirable for them to have school building divisions or services in the State department. Five of these State departments, Arizona, Idaho, New Mexico, Oregon, and Washington estimated that 7 people would be needed at a total estimated budget of \$31,300. The other 4 States did not give estimates as to budgets or the number of the staff needed.

Four State departments, Delaware, Maine, Maryland, and Rhode Island reported that they did not consider a school building division or service desirable, and five States, Kansas, Nevada, Utah, Vermont, and West Virginia, did not reply to this question.

### **Eight State Departments in Which It Was Reported That No One Is Designated for School Building Work**

The State superintendents in the following eight States reported that no one was designated for work on school building problems: Colorado, Iowa, Massachusetts, Montana, Nebraska, New Hampshire, South Dakota, and Wyoming. Colorado and Nebraska reported that the "State Department had no responsibility for school building work." The other six States did not say that the State department was not responsible for this work but they reported that this work was not allocated to anyone (table 5).

### **Total Number of School Buildings and Capital Outlay**

The number of school buildings in these eight States in 1938 was 30,752. The amount of capital outlay in these eight States in 1938 was \$4,975,804. The amount of capital outlay varied from a minimum of \$42,450 in Massachusetts to a maximum of \$1,800,029 in Iowa in 1938. The enrollment in rural areas in these eight States in 1938 was 949,437. This enrollment varied from a minimum of 35,697 in Wyoming to 309,876 in Iowa.



Of these eight State departments, two, Colorado and South Dakota, reported that they considered it would be desirable to have a school building division or service in the State department of education. Colorado estimated that a staff of three and a budget of \$10,000 are needed. South Dakota did not specify the staff or budget needed.

The other six States did not answer the question as to desirability of a school building division or service.

### Summary

Of the 48 State departments, 22 States carried on the work in school buildings through a school building division or service in which the staff members gave all their time to this work. In these States there was an enrollment in rural areas in 1938 of 8,954,917 and a capital outlay of \$76,125,247.

In 18 State departments the work on school buildings was allocated to an official of the State department who had other duties in addition to school building work. The enrollment in rural areas in 1938 in these 18 States was 2,768,435, and the amount of capital outlay was \$29,736,116. In eight State departments it was reported that no one was designated for school building work. The enrollment in 1938 in these States was 949,437 and the amount of capital outlay was \$4,975,804.

Of the 26 State departments not having a school building division or service, 11 reported that they considered it would be desirable to establish in their State departments a school building division or service. Six of these State departments estimated that staffs varying from 1 to 3 with total budgets of \$41,300 would be needed for this work.

## Chapter II

### Functions and Procedures of State Departments of Education with Regard to School Building Work

**I**N ORDER TO ASCERTAIN what kind of services on school building work was rendered by State departments of education to local school districts, a questionnaire covering in general the following points was sent to each State superintendent of public instruction:

1. What technical services do the State departments render to local communities in deciding whether a building is needed and where it is needed? Does the State department make school building surveys for local communities?
2. To what extent do the State departments set up standards of school building construction? To what extent are these standards permissive or binding on local school districts?
3. When a community decides that a school building is needed, does it submit the plans and specifications to the State department for approval? Is the submission of plans permissive or compulsory?
4. Does the school district have to abide by the approval or disapproval of the State department relative to proposed school building construction?
5. Does the State department itself prepare plans and specifications for local communities or do private architects do this work?
6. Does the State department supervise the construction of school buildings?
7. Does the State department inspect school buildings?
8. Does the State provide grants or loans for school building construction to local school districts?

### School Plant Surveys

Thirty-one of the 48 States reported that they made school plant surveys. Of this number, 12 modified their statements as follows: 5 States, Delaware, Idaho, Ohio, Oregon, and West Virginia, said that they had made surveys once; Vermont reported that they made surveys seldom; Massachusetts said the service was limited; Maine stated that surveys consisted only of consultative service; New Mexico said the State department had authority to make surveys, but did not state that they had made any as yet; Georgia said that the State department made local surveys, but not State or county surveys. Missouri reported that school building surveys were made by the State department with the aid of the University of Missouri, and Washington reported that surveys were made through the State Planning Commission.

The following 19 States reported that school building surveys were a regular part of the State department work on school buildings: Alabama, Arkansas, California, Connecticut, Florida, Kentucky, Minnesota, Mississippi, New Jersey, New York, North Carolina,



Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Virginia, and Wisconsin.

Of the 31 States that make surveys, 24 reported that they made surveys at the request of the local community. Ten of these States said that they also made surveys on their own initiative. Seven States said they made surveys only on their own initiative.

Twelve States, Illinois, Indiana, Kansas, Louisiana, Michigan, Montana, Nebraska, Nevada, New Hampshire, North Dakota, South Dakota, and Utah reported that they did not make school building surveys. Five States did not reply to this question.

The Alabama, Mississippi, North Carolina, South Carolina, and Virginia State departments of education submitted printed and mimeographed reports of school building surveys on the basis of which school building programs were planned in these States (appendix A).

Three States, Alabama, North Carolina, and Virginia stated that they kept their school building surveys up to date. Rhode Island said "at the discretion of the local unit," Washington said "if possible," and Wisconsin said that some of the surveys were kept up to date (appendix, table F).

The importance of school plant surveys in connection with school building construction will be discussed in the section on review and approval of school building plans.

### **Reports on Condition of School Plants**

Of the 48 State departments, the following 13 departments reported that they required annual reports on the condition of the school plant from city, county, or district superintendents: Alabama, Delaware, Florida, Georgia, Louisiana, Minnesota, New Mexico, New York, North Carolina, North Dakota, Ohio, Texas, and Virginia.

Twenty-five States reported that they did not require annual reports. Of this number, Arkansas reported that the status of the school plant was asked for annually in the county examiner's report. Massachusetts reported that "each year the school committee \* \* \* should with the superintendent of schools carefully investigate physical condition of school property. Written memorandum of results of investigation should be on file in superintendent's office \* \* \*. The only record that is compulsory is a report of summary of expenditures on school plant." Michigan reported that "we plan a brief inquiry to be completed voluntarily by some but not all schools." Mississippi stated that they were working on a plan to secure regularly data on the condition of the school plant. New Jersey reported that "score cards are sent each 5 years to city and county superintendents." Oklahoma reported that in 1939 record forms on the condition of the school plant were mailed to county and city superintendents.



Wisconsin reported that "general information is usually on file in the Division of School Plant Service" (appendix, table II).

### Standards for School Building Construction

School building planning and construction is a highly technical matter involving knowledge of engineering, architecture, materials, factors making for safety and health, and also factors that need to be taken into consideration for adequate functional planning of school buildings to meet the requirements of educational programs.

There are various laws, codes, standards, and regulations in the States with relation to the planning and construction of school buildings. They vary greatly from State to State.

1. *Building codes.*—In some States the regulations with regard to school buildings are found only in building codes that cover all types of buildings, without specific reference to school buildings. Few States have school building codes as such. Experts in school building construction are generally of the opinion that it is undesirable to incorporate in a rigid building code school building standards which may be obsolete before legislative measures can be set in motion to change such standards in accordance with new developments.

2. *School laws.*—Almost all the States include in their school laws some regulations or standards in regard to school buildings which vary from a single item such as doors must open outward to detailed items such as are found in the building code of the fire underwriters. Generally speaking, the building codes and school laws cover merely the standards that relate to safety and health, for example, standards for lighting, heating, ventilation, fire protection, entrances and exits, stairways, and corridors. In no instance do these laws or building codes cover such items as the planning and construction of special-purpose rooms.

3. *Standards set up by State departments.*—Some State departments of education have prepared and published standards or regulations with regard to school building construction which are more detailed and cover many more items than do the majority of school laws. In some cases they include standards not only for construction but functional planning of the different units in the building. Because they are not embodied in laws, these regulations can more easily be changed to meet changes due to technological improvements in construction or to developments in the school curriculum.

4. *Standards of the National Council on Schoolhouse Construction.*—Many States have adopted the standards of the National Council on Schoolhouse Construction in connection with school building construction in their States. This Council was formed by directors of school buildings in State departments of education for the purpose of pool-



ing their knowledge in this field and developing standards which all of them could agree upon as sound and desirable. For 15 years there has been a standing committee on standards, and each year the standards are checked or changed in accordance with the knowledge and experience of those in the field. They include recommendations not only in regard to such items as ventilation, heating, lighting, sanitation, etc., but also suggestions for the design and construction of auditoriums, gymnasiums, auditorium-gymnasiums, and special-purpose rooms such as art and music rooms, science laboratories, shops, domestic science, etc.

An examination of the standards as published by the National Council on Schoolhouse Construction for special-purpose rooms shows that these standards were detailed. For example, the standards for gymnasiums include floor area, ceiling height, lighting, capacity, ventilation, acoustics, storage and apparatus room, instructor's rooms, and drinking fountains. The standards for auditoriums include location, exits, proportion, capacity, stage, aisles, seating, lighting, and projector rooms. Details of these standards will be found in the proceedings of the eighteenth annual meeting of the National Council on Schoolhouse Construction.<sup>2</sup>

The importance of these standards is indicated by the fact that in 1938 the Federal Emergency Administration of Public Works published for the use of the States in making application for PWA grants and loans a pamphlet, *Fire Protection Requirements, Schoolhouse Construction*, in which it was stated that these requirements were based upon "(1) the recommendations of the National Council on Schoolhouse Construction, as contained in the standards of the Fourteenth Annual Meeting, October 1936; (2) the building code recommended by the National Board of Fire Underwriters; and (3) the Building Exits Code, by the National Fire Protection Association."

Table 6 shows that 41 States had school laws which included some regulations in regard to school buildings; 21 States had printed standards or regulations on school buildings in addition to school laws (appendix B); and 20 States used the standards of the National Council on Schoolhouse Construction. Of these 20 States 10 had printed standards which included some local regulations in addition to the standards of the national council. Of the 21 States that had printed standards, 4 reported that the standards were limited to 1- to 3-room buildings, rural schools, or high-school buildings, or standardized schools. In 13 States the only standards were those in the school laws. Four States had neither school laws nor printed standards for school buildings, nor did they use the national council standards.

<sup>2</sup>National Council on Schoolhouse Construction. Proceedings of the eighteenth annual meeting, 1940, p. 80-107 (secretary, Ray L. Hamon, George Peabody College, Nashville, Tenn.).



**Table 6.—State departments which (1) have printed standards or rules and regulations with regard to school building construction; and/or (2) use the National Council on Schoolhouse Construction standards; and/or (3) have school laws which include some regulations with regard to schoolhouse construction**

State	Has printed standards	Uses national council standards	Has school laws which include some regulations on school buildings	State	Has printed standards	Uses national council standards	Has school laws which include some regulations on school buildings
1	2	3	4	1	2	3	4
Alabama.....	x	x	x	Idaho.....	x	0	x
California.....	x	x	x	Illinois.....	x	0	x
Florida.....	x	x	x	Maine.....	x	0	x
Georgia.....	x	x	x	Michigan.....	x	0	x
Kentucky.....	x	x	x	North Dakota.....	x	0	x
Minnesota.....	x	x	x	Oregon.....	x	0	x
Missouri.....	x	x	x	Vermont.....	x	0	x
New York.....	x	x	x	Washington.....	x	0	x
Pennsylvania.....	x	x	x	West Virginia.....	x	0	x
Virginia.....	x	x	x	Wyoming.....	x	0	x
<b>Total.....</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>Total.....</b>	<b>11</b>	<b>0</b>	<b>11</b>
Connecticut.....	0	x	x	Arizona.....	0	0	x
New Jersey.....	0	x	x	Indiana.....	0	0	x
North Carolina.....	0	x	x	Iowa.....	0	0	x
Oklahoma.....	0	x	x	Kansas.....	0	0	x
South Carolina.....	0	x	x	Maryland.....	0	0	x
Texas.....	0	x	x	Massachusetts.....	0	0	x
Wisconsin.....	0	x	x	Montana.....	0	0	x
<b>Total.....</b>	<b>0</b>	<b>7</b>	<b>7</b>	Nevada.....	0	0	x
Arkansas.....	0	x	0	New Hampshire.....	0	0	x
Mississippi.....	0	x	0	Ohio.....	0	0	x
Tennessee.....	0	x	0	Rhode Island.....	0	0	x
<b>Total.....</b>	<b>0</b>	<b>2</b>	<b>0</b>	South Dakota.....	0	0	x
Delaware.....	x	0	x	Utah.....	0	0	x
				<b>Total.....</b>	<b>0</b>	<b>0</b>	<b>13</b>
				<b>Grand Total.....</b>	<b>21</b>	<b>20</b>	<b>41</b>

- <sup>1</sup> 1 to 3 rooms.  
<sup>2</sup> Rural schools.  
<sup>3</sup> Standardized schools.  
<sup>4</sup> High schools only.

## What Kind of Standards?

An analysis of the school laws affecting school building construction and of the printed standards and national council standards reveals the fact that the standards in certain States are limited to general construction; that is, to those affecting safety and health, and size and capacity of classrooms, while the standards in other States include regulations not only with regard to general construction, but also standards for special-purpose rooms, such as, kindergartens, libraries, science laboratories, music rooms, art rooms, and also for auditoriums, gymnasiums, cafeterias, and offices.

## States Having Standards for Construction Only

In 18 States the standards for school buildings are limited to safety, sanitary facilities, heating, ventilating, lighting, entrances and exits, stairways, corridors, type of construction, dimensions, seating capacity and equipment of classrooms, and location and height of base-

ments. In 11 of these States, Indiana, Kansas, Maryland, Massachusetts, Montana, Nevada, New Hampshire, Ohio, Rhode Island, South Dakota, and Utah, the standards exist only in the school laws.

As will be seen from table 7, there are 14 items listed under general construction. None of the 18 States has standards on all of the 14 items. Idaho has standards on 13 of the items, Ohio on 11, Maine and Indiana on 10, and Maryland on 8. In 5 States, Montana, Nevada, South Dakota, Utah, and Vermont, the standards are limited to those affecting safety, sanitary facilities, heating, ventilating, and lighting. These States have no standards for entrances and exits, stairways, corridors, type of construction, basements, or classrooms. Massachusetts has standards for 4 items, safety, sanitation, heating, and stairways. In New Hampshire the standards are limited to safety, sanitary facilities, entrances and exits; in Kansas to safety, and entrances and exits; in Iowa to safety and sanitary facilities; and in Wyoming and Arizona the only standards relate to safety. In Arizona the safety standards cover one provision as follows: "Doors upon all schoolhouses \* \* \* shall be constructed that they may open outward." In Wyoming the standards provide only for fire escapes on school buildings.

Table 7.—Eighteen States in which standards for school buildings are limited to general construction

State	Safety	Sanitary facilities	Heating	Ventilating	Lighting	Entrances and exits	Stairways	Corridors	Type of construction	Basements	Classroom				Total items
											Dimensions	Seating capacity	Equipment	Wardrobes	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>Total</b> .....	18	15	13	12	12	7	4	3	3	3	4	4	2	3	14
Idaho.....	x	x	x	x	x	x	x	x	x	x	x		x	x	13
Ohio.....	x	x	x	x	x	x	x	x	x	x	x				11
Maine.....	x	x	x	x	x	x	x	x	x	x	x				11
Indiana.....	x	x	x	x	x	x	x	x	x	x	x	x			10
Maryland.....	x	x	x	x	x	x			x	x	x	x		x	10
North Dakota.....	x	x	x	x	x							x	x		7
Rhode Island.....	x	x	x	x	x							x			6
Montana.....	x	x	x	x	x										5
Nevada.....	x	x	x	x	x										5
South Dakota.....	x	x	x	x	x										5
Utah.....	x	x	x	x	x										5
Vermont.....	x	x	x	x	x										5
Massachusetts.....	x	x	x				x								4
New Hampshire.....	x	x				x									3
Iowa.....	x	x													2
Kansas.....	x					x									2
Arizona.....	x														1
Wyoming.....	x														1



### State Departments Having Standards for General Construction Plus Standards for Classrooms, Special-Purpose Rooms, Auditoriums, Cafeterias, and Administrative Offices

Twenty-six States had standards for school buildings not only for general construction as given in table 7, but also for special-purpose rooms, auditoriums, gymnasiums, cafeterias, and administrative offices.

Twenty-one States, Alabama, Arkansas, California, Connecticut, Florida, Georgia, Kentucky, Minnesota, Mississippi, Missouri, New Jersey, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Wisconsin have standards for all the 27 items listed below:

<i>General construction</i>	<i>Special-purpose rooms</i>
Safety	Kindergartens
Sanitary facilities	Library
Heating	Science laboratories
Ventilating	Commercial rooms
Lighting	Art rooms
Entrances and exits	Music rooms
Stairways	Shops
Corridors	Home economics
Type of construction	Study halls
Basements	<i>Auditoriums</i>
<i>Classrooms</i>	<i>Gymnasiums</i>
Dimensions	<i>Cafeterias</i>
Seating capacity	<i>Administrative offices</i>
Equipment	
Wardrobes	

Of the remaining 5 States, Washington had standards on all the above items except for art and music rooms. Illinois had standards on all the above items except for music rooms, auditoriums, and cafeterias. Delaware had standards on all the items under general construction and for classrooms, auditoriums, and gymnasiums but none for special-purpose rooms. West Virginia had standards for one special-purpose room, for the auditorium and gymnasium, and for all items under general construction, except for heating and ventilating. Michigan had standards for only four items, safety, heating, type of construction, and gymnasiums.

### Number of States Having Building Standards on General Construction, Special-Purpose Rooms, Auditoriums, Gymnasiums, and Offices, According to Items

If the number of States having standards on each item in general construction is considered, it is found that 44 States had standards for safety and 40 had standards for sanitary facilities. The number of States having standards on any of the other eight items in general

construction varied from 28 to 38. In other words, there was no one item in general construction on which all States had standards.

With regard to the special-purpose rooms, auditoriums, gymnasiums, and so forth, half the States had standards on libraries and auditoriums, 26 States had standards on gymnasiums, but less than half the States had standards on any of the other items (table 8).

**Table 8.—Number of States having standards on school buildings according to each item**

**A. ON GENERAL CONSTRUCTION AND CLASSROOMS**

Standards	Total States having standards on general construction and classrooms	Number of States in which standards are—	
		Limited to general construction and classrooms	Not limited to general construction and classrooms <sup>1</sup>
1	2	3	4
<b>General construction:</b>			
Safety.....	44	18	26
Sanitary facilities.....	40	15	25
Heating.....	38	13	25
Ventilating.....	36	12	24
Lighting.....	37	12	25
Entrances and exits.....	32	7	25
Stairways.....	29	4	25
Corridors.....	28	3	25
Type of construction.....	29	3	26
Basements.....	28	3	25
<b>Classrooms:</b>			
Dimensions.....	29	4	25
Seating capacity.....	29	4	25
Equipment.....	26	2	24
Wardrobes.....	28	3	25

<sup>1</sup> These States have standards for general construction, classrooms, special-purpose rooms, auditoriums, gymnasiums, cafeterias, and administrative offices.

**B. ON SPECIAL-PURPOSE ROOMS, AUDITORIUMS, GYMNASIUMS, CAFETERIAS, AND ADMINISTRATIVE OFFICES**

Standards	Number of States having standards on special purpose rooms, etc., in addition to standards on general construction and classrooms	Standards	Number of States having standards on special-purpose rooms, etc., in addition to standards on general construction and classrooms
1	2	1	2
<b>Special-purpose rooms:</b>		<b>Special-purpose rooms—Contd.</b>	
Kindergartens.....	21	Home economics.....	23
Library.....	24	Study halls.....	23
Science laboratories.....	23	Auditoriums.....	24
Commercial.....	23	Gymnasiums.....	26
Art rooms.....	22	Cafeterias.....	22
Music rooms.....	21	Administrative offices.....	23
Shops.....	23		

Obviously, the number of items listed under standards for school buildings does not tell the whole story. The question of the extent to which these standards are detailed and specific is the important point. As a matter of fact, however, all the 21 States that have the largest



number of items also have the most detailed standards on each of these items. Furthermore, in the 18 States in which standards are limited to general construction and classrooms, the standards are less detailed than in the 21 States.

### Methods of Enforcing Standards Set up by State Departments

It is important not only to know whether State departments set up standards for school buildings but also whether these standards are enforced and what methods have been found effective in enforcing them. Consequently, each State department was asked to state whether the standards were binding on the local community and to describe the methods used for enforcing the standards.

As has already been pointed out, 31 States set up standards in addition to those in the school laws. That is, they print or mimeograph their own standards or use the National Council on Schoolhouse Construction standards as State standards. Eighteen of these States reported that these standards were binding on the local community, and that the following methods were used to enforce them.

Twelve States said that the standards were observed because the approval of plans by the State department is required before construction of a building can be begun. Four States reported that they secured compliance with the standards either because they could withhold funds if the standards were not observed or they could refuse to authorize bond issues. One State said it was able to exercise a certain measure of control through refusal to accredit schools if the standards were not observed. One State reported that it had no adequate means of enforcing the standards (table 9).

Table 9.—Methods of enforcing standards in 18 States where standards, set up by State departments in addition to school laws, are binding on local community

State	Standards binding on local community	Approval of plans required before construction is begun	State can withhold funds or refuse to authorize bond issues	State	Standards binding on local community	Approval of plans required before construction is begun	State can withhold funds or refuse to authorize bond issues
1	2	3	4	1	2	3	4
Total.....	18	12	4	New York.....	<sup>1</sup> X	<sup>1</sup> X	
Alabama.....	X	X		North Carolina.....	X		X
Connecticut.....	X	X		North Dakota.....	X	X	
Delaware.....	X	X		Pennsylvania.....	X	X	
Florida.....	X	X		South Carolina.....	X	X	
Georgia.....	<sup>1</sup> X			Vermont.....	X	X	
Idaho.....	<sup>2</sup> X			Virginia.....	X		X
Kentucky.....	X		X	West Virginia.....	X	X	
Maine.....	X		X				
Minnesota.....	X	X					
New Jersey.....	X	X					

<sup>1</sup> Georgia secures observance of standards through accreditation of schools.

<sup>2</sup> Idaho reported "No adequate means of enforcing standards."

<sup>3</sup> Division has power to approve all plans for buildings costing \$500 or more except for places exceeding 50,000 population.



Ten of the 31 States, Arkansas, California, Mississippi, Missouri, Oklahoma, Oregon, Tennessee, Texas, Washington, and Wisconsin, that set up standards in addition to school laws said that these standards were not binding on the local community but 6 of them—Arkansas, California, Oklahoma, Texas, Washington, Wisconsin—reported they were able to secure observance of the standards through persuasion and leadership. Three States did not report on these points.

### States Having Standards With Regard to Sites

The planning of the school site, its size, location, and topography, is of fundamental importance in planning the total school plant. It was found that 31 States had some standards for school sites which were incorporated either in school laws or in State regulations covering the following items: Topographic and engineering survey, size, accessibility, location, sanitation and drainage, equipment, landscaping, parking facilities, and allowance for future expansion. Twenty States had standards for all these items.

Of the 31 States, 30 had some regulations in regard to location of the site, but these regulations were general in character, such as "the site should be removed from objectionable features such as noise, odors, dust, and heavy traffic highways." Twenty-six States specified that the site must be free from sanitary hazards and properly drained, but in most cases the standards were not specific as to either the sanitation or drainage. Twenty-five States had regulations or suggestions as to size of site. The most generally accepted standard for elementary schools was that the size of site should range from 5 to 10 acres and for high school sites from 10 to 30 acres. Twenty-four States specified that the site should be accessible to all pupils and as near as possible to the center of the school population, and 24 made provision for landscaping of the site. Twenty States specified that the site should be selected only in the light of a topographic and engineering survey. Twenty States recommended standards for fencing of the school property, provision for hose hydrants, and other school ground equipment, and 20 States specified that space should be provided for parking facilities.

In other words, only 20 States specified that topographic and engineering surveys should be made as the basis for the choice of site, and that these surveys should cover size, determination of the sanitation and drainage that would be necessary, kind of landscaping to be provided, the location of parking facilities, and equipment, such as provisions for fencing, location of hose hydrants, and so forth (table 10).



Table 10.—Number of States which have standards with regard to sites

State	Standards with regard to—								
	Location	Sanitation and drainage	Size	Accessibility	Landscaping	Allowance for future expansion	Topographic and engineering survey	Equipment	Parking facilities
1	2	3	4	5	6	7	8	9	10
<b>Total</b> .....	<b>20</b>	<b>20</b>	<b>23</b>	<b>24</b>	<b>24</b>	<b>21</b>	<b>20</b>	<b>20</b>	<b>20</b>
20 States <sup>1</sup> .....	x	x	x	x	x	x	x	x	x
Delaware.....	x	x	x	x	x	x	x	x	x
Idaho.....	x	x	x	x	x				
Illinois.....	x	x	x						
Indiana.....	x	x							
Iowa.....	x								
Maine.....	x								
North Dakota.....			x		x				
Oregon.....	x	x		x	x	x			
Vermont.....	x	x			x				
Washington.....	x		x	x					
West Virginia.....	x								

<sup>1</sup> 20 States have standards in all the fields listed in cols. 2 to 10, inclusive: Alabama, Arkansas, California, Connecticut, Florida, Georgia, Kentucky, Minnesota, Mississippi, Missouri, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, Wisconsin.

### States Having Standards for Playgrounds

Only 23 States had any standards with regard to playgrounds (table 11). These standards referred to location, grading, drainage, surfacing, equipment, administration, water supply, size, and analysis of soil, but not all the 23 States had standards on all these items. Twenty-two States stated that the location of the playground should be on the school site or adjacent to the school, but there were no specifications as to the location of play areas for different play activities. Although 21 States had general directions for grading, drainage, surfacing of the playground, and provision for equipment, these directions were only in general terms. Twenty of the States specified that the playgrounds and athletic field should be under the jurisdiction and administration of the school authorities.

In other words, less than half the States had any standards even of a general character with regard to the location and planning of playground areas. This would indicate that play is not yet considered such an integral part of the school program that play areas need to be studied as carefully as the plans and specifications for classrooms.

Table 11.—Number of States which have standards with regard to playgrounds

State	Standards with regard to—								
	Location	Grading	Drainage	Surfacing	Equipment	Administration	Water supply	Size	Analysis of soil
1	2	3	4	5	6	7	8	9	10
<b>Total</b>	22	21	21	21	21	20	20	2	1
19 States <sup>1</sup>	x	x	x	x	x	x	x		
Idaho	x	x	x	x					
North Dakota					x				
Oregon	x							x	
Pennsylvania	x	x	x	x	x	x	x	x	x

<sup>1</sup> 19 States have standards in all the fields listed in cols. 2 to 8, inclusive: Alabama, Arkansas, California, Connecticut, Florida, Georgia, Kentucky, Minnesota, Mississippi, Missouri, New Jersey, New York, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, Wisconsin.

### Preparation of Plans and Specifications by State Departments

Nineteen State departments reported that plans and specifications for school buildings in their States were prepared only by private architects, that is, architects in private practice as distinguished from architects in public service.

In 18 States plans and specifications for school buildings are prepared not only by private architects but also by State departments of education. In general, the preparation of plans and specifications of school buildings by State departments is limited to small buildings. For example, only nine State departments prepared plans and specifications for buildings as large as nine rooms and only eight prepared plans and specifications for buildings of 13 rooms and over (table 12).

Because there is considerable difference of opinion among people in the school building field as to whether or not State departments of education should prepare plans and specifications for school buildings, each State superintendent was asked to give what he considered the advantages and disadvantages of the State department itself preparing plans and specifications for school building for local communities. Their answers are as follows:



Table 12.—States in which plans and specifications of school buildings are prepared (1) by private architects only; (2) by both private architects and by State departments

State	Private architects prepare plans and specifications	State department prepares plans and specifications							
		Number that prepare plans	For buildings of the following room sizes:						
			1	1 to 2	1 to 4	1 to 6	1 to 9	1 to 12	More
1	2	3	4	5	6	7	8	9	10
<b>Total</b>	37	18	14	12	12	9	9	8	8
Alabama	X	X	X	X	X	X	X	X	X
Arkansas	X	X	X	X	X	X	X	X	X
California	X	X	X	X	X	X	X	X	X
Florida	X	X	X	X	X	X	X	X	X
Georgia	X	X	X	X	X	X	X	X	X
Minnesota	X	X	X	X	X	X	X	X	X
Mississippi	X	X	X	X	X	X	X	X	X
Missouri	X	X	X	X	X	X	X	X	X
North Dakota	X	X	(1)	(1)	(1)	(1)	X	X	X
Oklahoma	X	X	X	(1)	(1)	(1)	X	X	X
Pennsylvania	X	X	X	X	X	X	X	X	X
South Carolina	X	X	X	X	X	X	X	X	X
Tennessee	X	X	X	X	X	X	X	X	X
Texas	X	X	X	X	X	X	X	X	X
Vermont	X	X	(1)	(1)	(1)	(1)	X	X	X
Virginia	X	X	X	X	X	X	X	X	X
West Virginia	X	X	(1)	(1)	(1)	X	X	X	X
Wisconsin	X	X	X	X	X	X	X	X	X
Connecticut	X	X	X	X	X	X	X	X	X
Delaware	X	X	X	X	X	X	X	X	X
Idaho	X	X	X	X	X	X	X	X	X
Illinois	X	X	X	X	X	X	X	X	X
Indiana	X	X	X	X	X	X	X	X	X
Kentucky	X	X	X	X	X	X	X	X	X
Louisiana	X	X	X	X	X	X	X	X	X
Maine	X	X	X	X	X	X	X	X	X
Maryland	X	X	X	X	X	X	X	X	X
Michigan	X	X	X	X	X	X	X	X	X
New Jersey	X	X	X	X	X	X	X	X	X
New Mexico	X	X	X	X	X	X	X	X	X
New York	X	X	X	X	X	X	X	X	X
North Carolina	X	X	X	X	X	X	X	X	X
Ohio	X	X	X	X	X	X	X	X	X
Oregon	X	X	X	X	X	X	X	X	X
Rhode Island	X	X	X	X	X	X	X	X	X
Utah	X	X	X	X	X	X	X	X	X
Washington	X	X	X	X	X	X	X	X	X

- 1 Chiefly small schools.  
 2 Standardized schools only.  
 3 Small schools.

***Advantages and disadvantages of State departments preparing plans and specifications for school buildings, as reported by State superintendents***

***Alabama:***

*Advantages.*—Economical and helpful to private architects and more adequate inspectorial service.

***Arkansas:***

*Advantages.*—Strong cooperation between department and architects. Local districts cannot afford private architectural service.

***California:***

*Disadvantages.*—It is entirely wrong to have State make plans. The making of plans is a private business and of local responsibility, first of all because school buildings are financed locally and they should have their own architect in order to take care of local needs and desires. Private architects think of new things and these can be encouraged in other schools. Variations in plans in conformity to local conditions easier.

***Connecticut:***

*Advantages.*—Probable efficiency (in long run) of school buildings planned only by school planning specialists.

*Disadvantages.*—Probable tendency toward over standardization. Diminished application of inventiveness and imagination. Increased cost of architectural services. Poorer quality of architectural services (than best otherwise obtainable). Curtailment of services due to budgetary limitations.

***Florida:***

*Advantages.*—Furnish complete plans, specifications, and supervision for small buildings that will not involve enough expenditure to be attractive to competent architects.

*Disadvantages.*—The chief objections to the furnishing of architectural drawings by the State is that some individuals feel that this is contrary to our theory of democratic government in that the State should not engage in a business that can be discharged by individuals or companies, and that it could result in too much centralization of authority in the State.

***Georgia:***

*Advantages.*—This service means a great deal to communities that are heavily bonded and not able to rebuild. Furthermore there are many small buildings and additions in outlying districts where a practicing architect cannot be had at a nominal cost. There is an educational advantage as well as the economic. There is opportunity to lay before school officials a better layout of classrooms, library, laboratories, lavatories, lighting arrangement, and many of the better things that come with modern school building.

*Disadvantages.*—Practicing architects are on the lookout for any large building service of this kind paid for by the State, and unless we are careful to serve only those communities that really cannot afford to employ outside architectural services, they are not inclined to support taxes for education.

***Michigan:***

*Disadvantages.*—Believe that local boards and architects should do it. Department should approve plans before construction. Too much of a burden on State department. Architects object. Local school authorities lose initiative and responsibility for important aspect of local school administration.



**Minnesota:**

*Advantages.*—Service to rural communities whose building projects are too small to attract services of competent architects.

*Disadvantages.*—Assumption by State of such responsibility requires maintenance of competent staff for which sufficient funds are difficult to secure; ill feeling and criticism engendered by State for encroaching on private enterprise; disproportionate time and effort required to render such service.

**Mississippi:**

*Disadvantages.*—Much can be said on both sides. Lean toward side of not doing too much architectural production.

**Missouri:**

*Advantages.*—Schools want the service, and it is an economy for them.

**North Carolina:**

*Advantages.*—If the State department could employ an expert and ample architectural staff, it could produce better plans more economically than is possible under the private employment of architects. Architecture is a profession and there is merit in the contention of architects that the State should not compete with private enterprise.

**North Dakota:**

*Disadvantages.*—Too expensive for large buildings. Small communities need more direct guidance and consultation.

**Oklahoma:**

*Advantages.*—The local architects do not object to the Department making plans and specifications for one- to four-room buildings since these small buildings are not profitable for the architect.

**South Carolina:**

- Advantages.*—1. Saving to school district of architect's fee.  
2. Buildings are planned more in keeping with needs of the school and with hygienic requirements than if planned otherwise.  
3. Buildings planned by the State are more economical than those planned by private architects, and furnish a higher educational return for the investment.  
4. The State specializing on school buildings rather than general architecture is in a position to assemble and utilize the best information available as related to school buildings.

**Tennessee:**

- Advantages.*—1. In many instances the State department is able to render service where money is not available for such services in the school budget.  
2. If service is available in the State department, than the State department officials feel more free in making certain recommendations relative to needed changes.  
3. The State department of education has available specially trained functional schoolhouse planners who have a better grasp on the real problem concerning school building architectural service.

*Disadvantages.*—Differences sometimes arise between architects and the State department of education. Difficulty to secure funds for the adequate maintenance of proper personnel for the Division of Schoolhouse Planning.

**Texas:**

*Disadvantages.*—Competing with private architects.

**Virginia:**

*Advantages.*—1. The Department is in a position to have an overview of the entire State, which the private architect is not in a position to do.

2. The State Department is in a position to exercise leadership in persuading a committee to accept a type of planning and construction that the private architect is not in a position to do because of the fact that the State Department is not dependent upon fees for its services.

3. The State Department should know educational needs better than the private architect is in a position to know them.

4. The State Department of Education is in a position to provide for long-range planning, consolidations, and properly locating buildings in terms of such consolidations. The private architect is not in a position to do this.

5. The cost of the State Department is 1½ percent the cost of the building to prepare architectural plans and specifications and supervise construction, as contrasted with the usual 5 percent and 6 percent charge of private architects.

*Disadvantages.*—It can so easily become bureaucratic. It can so easily become overstandardized.

**West Virginia:**

*Advantages.*—State is sure building and specifications conform to good school building practices. Such plans are, of course, studied at length and at leisure.

*Disadvantages.*—Such plans may constitute a budgetary burden which local school units should really shoulder. Too much State concentration of control.

**Wisconsin:**

*Advantages.*—Can design to fit local needs. Can design unit plans. Save money. Provide plans to very small schools.

## State Departments That Prepare Stock Plans

The following 18 State departments of education reported that they prepared stock plans of school buildings, that is, plans without reference to a specific school building: Alabama, Arkansas, Georgia, Idaho, Kentucky, Maine, Minnesota, Mississippi, Missouri, New York, North Carolina, Oklahoma, Pennsylvania, South Carolina, Texas, Vermont, Virginia, and West Virginia (appendix table III).

Only five of these States gave unqualified approval to the preparation of stock plans for school buildings. The majority said that they used them, first, because limited funds made it impossible for the State department to conduct school building surveys and prepare plans and, second, because local school districts did not have the funds to employ private architects and, therefore, if stock plans were not provided, the local communities would be without any directions for



school building construction. A statement of the advantages and disadvantages of the use of stock plans by States using them is given below.

***Advantages and Disadvantages of State Departments Making Stock Plans of School Buildings, as Reported by State Superintendents***

**Alabama:**

*Advantages.*—Economy of time for small schools.

**Arkansas:**

*Disadvantages.*—Not desirable. Too stereotyped. Do it only when necessary.

**California:**

*Disadvantages.*—Believe that schools should be built to suit variability of community needs and abilities as well as geographical needs and climatic differences.

**Connecticut:**

*Advantages.*—Immediate "savings" in cost of architectural services.

*Disadvantages.*—Failure to take into account differences in local educational and community needs; differences in local conditions of site. Certainty of poor results unless accompanied by system of rigid control to insure proper business procedures, good management, adequate technical supervision, inspection, etc.

**Georgia:**

*Advantages.*—Since school buildings are somewhat standardized, it follows that stock plans can often be fitted right into needs of other communities. Much time and expense can be saved by preserving all tracings from which prints may be made from time to time.

**Idaho:**

*Advantages.*—Economy to district. Can give direction as to type of building.

**Kentucky:**

*Disadvantages.*—Would not furnish if had money and staff for drawings for individual school buildings.

**Michigan:**

*Advantages.*—Economy. More boards would have plans.

*Disadvantages.*—Cannot adapt to local needs.

**Minnesota:**

*Advantages.*—Assistance supplied to rural communities that cannot secure architectural service; well planned stock plans meet all essential needs; enable State to render service at reasonable cost and minimum time and effort; eliminates necessity for maintaining permanent staff of draftsmen, engineers, and architects.

*Disadvantages.*—Undesirable uniformity in design; lack of flexibility; not adapted to all local site conditions and other needs.

**Mississippi:**

*Disadvantages.*—Very unsatisfactory. Rare to find plan fitting the specific situation.

**North Carolina:**

*Advantages.*—Distributing stock plans for school buildings instead of preparing plans for specific buildings is of service to those communities which are unable to engage the services of a private architect. Likewise, architects will follow these stock plans in designing buildings. The stock-plan idea has no real advantage over the "plans for specific buildings" idea. However, the stock-plan practice is not criticized by architects.

**Ohio:**

*Advantages.*—Might be of a little help to small schools.

**Oklahoma:**

*Advantages.*—The State Department makes stock plans for one to four-room buildings not to exceed \$10,000 in cost. These stock plans are used because, with the limited personnel available, it is impossible to keep up with the demand for plans of school buildings if it is necessary to make new plans for each building. If the personnel was adequate the division would prefer to make individual plans.

**South Carolina:**

*Advantages.*—Economy of furnishing such plans. Experience with these plans permits improvement of buildings later constructed.

*Disadvantages.*—If too many of the same stock plans are used, monotony results.

**Tennessee:**

*Advantages.*—Standardization is sometimes desired when the work is to be duplicated in the various rooms or buildings to be built. More economic construction and certainly a saving of money in the preparation of plans. Ease of operation for specific cases.

*Disadvantages.*—Likelihood of trying to make a building fit an educational program without altering the style or capacity of the building. Every school set-up is possibly a little different and would require a little different type of building. Likelihood of becoming too standardized.

**Virginia:**

*Advantages.*—Advantages are very few except in the case of some one- and two-room schools. These small units can usually be planned as stock plans with sufficient variations to accommodate most any local need or requirement. There are certain other stock plans which can advantageously be prepared and distributed, such as agricultural shop buildings, home economics cottages, certain inexpensive gymnasium buildings, certain sanitary facilities, such as privies and septic tanks, but beyond the small units and the inexpensive units, there are few advantages in stock plans.

*Disadvantages.*—The disadvantages are so great that they overbalance the few advantages to be gained. Some of the chief disadvantages are that the building should be planned to suit the local community needs. Due to land contours, orientation, local community settings and sites, stock plans usually must be so greatly changed that it is generally quite impracticable to use plans for a given building for more than one location.

**West Virginia:**

*Advantages.*—Department has used Julius Rosenwald plans considerably rather than prepare stock plans. Such plans help rural school systems considerably where school units are small.

*Disadvantages.*—May not suit special situations.

**Wisconsin:**

*Disadvantages.*—Cannot adapt to local needs.



### **State Departments That Design and Distribute Room Layouts**

With the changing demands of the modern school plant the question of preparing room layouts for special subjects such as art, music, science, industrial arts, etc., becomes of increasing importance. The fact that 21 State departments prepare room layouts indicates that there is a demand for suggestions for room layouts for different types of rooms. The State departments which prepare such room layouts state that they do not recommend them as standard types but rather as suggestions on the basis of which the needs of individual schools may be met. The States that prepare room layouts are Alabama, California, Connecticut, Florida, Georgia, Kentucky, Minnesota, Mississippi, Missouri, New York, North Carolina, North Dakota, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Virginia, Washington, West Virginia, and Wisconsin (appendix table III).

As a general rule the rooms for which layouts are prepared are classrooms, shops, homemaking rooms, and libraries. The number and variety of room layouts varies with the different States. For example, the division of school buildings of the Department of Public Instruction of Pennsylvania prepares suggested room layouts for kindergartens, classrooms, libraries, science laboratories, social science rooms, geography rooms, typewriting and bookkeeping, shops, and homemaking rooms. Other States prepare similar or other room layouts for distribution to local communities. It is always emphasized that these room layouts are to be used as suggestions only and adapted to the needs of the local situation.

### **Preparation of Plot Plans by State Departments**

Another field in school plant planning which has been growing in importance in recent years is the accurate and scientific preparation of plot plans. The preparation of such plans takes both time and money so that it is not surprising that only 12 State departments prepare plot plans for school buildings. They are Alabama, California, Georgia, Kentucky, Minnesota, Mississippi, Pennsylvania, Tennessee, Vermont, Virginia, Washington, and Wisconsin. Vermont said that plot plans were prepared "to some extent" (appendix table III).

### **Treatment of Soil for Playgrounds**

As will be seen from the preceding section on standards for school buildings, the planning of the playground is now considered an integral part of the school plant plan. It is generally recognized by experts in the school building field, however, that if play activities are to be successfully carried on it is important that playground surfaces should not be either muddy, or cindery, or so hard as to lead to accidents. This in turn means that there has to be a careful



analysis of soil of playgrounds and careful preparation of surfaced areas for play. At the present time there is no general agreement as to the best type of surfacing for play areas. In fact the whole development of play areas as an integral part of the school plant is a matter of only recent development. Therefore, it is not surprising that only nine State departments of education reported that they prepared and distributed directions for treatment of soil for playgrounds. These State departments are Alabama, Florida, Minnesota, Mississippi, Oregon, Virginia, Washington, West Virginia, and Wisconsin (appendix table III).

### **Review and Approval of Plans**

What is involved in the review and approval of plans by a State department of education? This question can best be answered by someone actually engaged in this work. The following is a report by Mr. Raymond V. Long, Director of School Building Construction, State Department of Education, Richmond, Va., of the work on review and approval of plans as carried on in the State Department of Virginia. It covers all the points which the other States reported were necessary for adequate review and approval of plans:

#### ***Steps Involved in Review and Approval of School Building Plans***

***First Step:*** No plan can be considered for approval until the school building director determines the need for the building, the suitability of location and site, whether the new building is a logical part of a long-range plan of desirable consolidation, and the predicted future of the community for which the building is prepared as to its school population development.

***Second Step:*** Approval of preliminary drawings. This involves a careful consideration of the functional planning, the size of the building and its planning to permit of extensions, the size of the site, its accessibility to highways, the provision of proper and suitable educational space in which to conduct a proper educational program, and in general all pertinent factors that should be considered in the planning and construction of school buildings.

***Third Step:*** The approval of final working drawings and specifications as they are, to be submitted to the contractor for actual construction purposes.

It sometimes happens that plans are submitted for final approval without having taken steps one and two, in which case approval is necessarily delayed until the work involved in the first and second steps can be completed.

If information is not available from a school division as to its population density and population distribution as determined by the school population spot map, also its existing roads, as well as contemplated primary and secondary roads that contribute to transportation, no plan for a school building can be approved until this information is made available.

The study of preliminary drawings and approval of preliminary drawings with outline specifications is even more involved than Step One or Step Three. An architect has an exceedingly difficult problem to solve, (1) in planning a building in keeping with a modern educational program and (2) at the same time discharging his responsibility satisfactorily to his client who expects much more by way of building than he is willing to provide funds for.



The problem becomes infinitely more complicated when the architect, in his zeal to secure a commission, has promised more by way of a building than he can fulfill if the building is well planned structurally and educationally, as well as in terms of future maintenance and operation costs. The usual local school authorities are not in a position to instruct their architect in details of functional planning or structural planning, and frequently they have little conception of what they are going to get until the building is erected. Consequently, preliminary plans are frequently submitted that attempt to incorporate what the owner desires as to the number of classrooms, offices, toilets, heating plant and auditorium, but the plans are often based on a very vague or limited idea as to other space facilities that should be incorporated in a modern school plant. For example, some of the other important details that must be considered, investigated and agreed upon in the preliminary plan are the differences in space requirements for an elementary school and a high school; the size and arrangement of the different instructional spaces to accommodate satisfactorily the local needs, e. g., how large should the laboratory be, how large should the auditorium be, and how should the stage be arranged, is there ample provision made for dressing rooms, is the stage and auditorium lighting adequate and satisfactory, is the cafeteria or lunch room large enough to accommodate the expected demand satisfactorily, etc.

Again, if the plant must be limited in size to come within the funds available, has the ultimate plant with the necessary spaces been considered, and laid out so that these spaces can readily be added at some later date; are the service spaces, such as boiler and fuel rooms, cafeteria, toilets, etc., large enough to meet the anticipated future demands; is the building so located on the site that adequate playground and recreation facilities can be developed; are the materials to be incorporated in the building such as will make for economy in maintenance; is the building so laid out structurally that minimum requirements can be followed as to exits, with ample provision for pupil travel without congestion. Many and other important and significant items must be considered in the preliminary plans which are outlined in more detail under Step Three.

In the consideration of final working drawings for approval, there are oftentimes many serious problems encountered that call for frequent conferences and are time-consuming, e. g., the insurance rate on a building of Type D construction in a rural area is approximately seven times as great as the insurance rate on a building of Type B construction. This item alone means heavy operation costs in insurance premiums. School authorities generally are not familiar with such insurance details.

There is on the market a wide variety of mechanical and automatically controlled equipment which on paper offer strong attractions, but in rural communities particularly the maintenance of mechanical and automatic equipment is a serious problem, and often means shut-downs or other serious operating troubles in the operation of the school plant. It is highly important that school authorities be fully advised in advance of many such problems before undertaking the actual construction of a new school building.

The actual development of survey reports is time consuming if such studies are accurately made in terms of long-range planning, involving reorganization through consolidation and transportation of both elementary and high schools. Such report when made does not stay fixed, but should change from year to year as local conditions change. Consequently, survey studies must be a continuing program of work if they are to be meaningful and to be depended upon in combatting local interests that are not always in terms of county or State-wide interest.



Some of the important points involved in the first step of this procedure are: The history of the county and the local community as to school enrollments; increasing, decreasing or stationary school population; the causes for any change in school population or enrollment; the financial ability of the county or local unit; the capital invested in existing school buildings, which goes far in determining whether an existing building can safely or easily be abandoned in the interest of consolidation; the condition of highways and geography of a community or school division, which goes far in determining the possibilities of transportation.

Much of this information is readily available from records that are cumulative and kept up to date, but considerable work and time are involved in keeping these cumulative records. It requires at least one-half time of a clerical worker to keep cumulative records up to date of such information as can be secured without actual field work. It also requires at least one-half time of a supervisor to review and revise field studies, and make new field studies, as are necessary, along lines as outlined above under Step One.

#### *Time required for review and approval of plans*

Each plant naturally has its own particular difficulties and problems to be considered before approval of plans can be granted. The time required varies but in terms of averages over a number of years it is estimated that in order to consider all details that must be studied before approval of preliminary drawings is given, approximately the full time of one supervisor for one week is required for the plans for each building. The time required for checking final working drawings and specifications against the minimum school building requirements under Step Three is approximately two days for each set of plans. It has already been pointed out that the time required for keeping up to date the data necessary for reaching decisions under Step One is reported as (a) at least one-half time of a clerical worker to keep cumulative records up to date, and (b) one-half time of a supervisor to review and revise field studies and make new studies.

### **Review of Plans and Specifications by State Departments**

The following 39 State departments reported that they reviewed plans and specifications for school buildings: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Idaho, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, and Wisconsin.

Of this number Massachusetts stated that they reviewed plans "only on request," Nevada said they gave "limited service," and New Hampshire and Ohio said they reviewed plans for P. W. A. buildings.

The following 6 States reported that they did not review plans and specifications: Colorado, Illinois, Indiana, Kansas, Montana, and Nebraska. Arizona, Iowa, and Wyoming did not reply (appendix, table IV).

Thirty-seven State departments reported that local communities submitted plans and specifications for review.



In response to the question as to the methods used to make sure that local communities submit all plans and specifications; 21 States replied that local communities were required by law to submit plans and specifications; 3 States reported that they were able to compel local communities to submit plans because: (1) the State pays annual maturities on bonded debt (Delaware); (2) the State department can withhold funds (Maine); and (3) the State department handles money (Ohio). Mississippi has a means of control through the accreditation of schools. In other words, in 24 States there were legal provisions or penalties which made it necessary for local communities to submit plans and specifications (table 13).

Eleven States reported that they had no power to compel local communities to submit plans but that they used persuasion to secure results: Arkansas, Georgia, Michigan, Missouri, Oklahoma, Oregon, Tennessee, Texas, Vermont, Washington, and Wisconsin. Twelve States did not reply to this question: Arizona, Colorado, Illinois, Indiana, Iowa, Kansas, Massachusetts, Montana, Nebraska, Nevada, New Hampshire, and Wyoming (appendix, table IV).

Table 13.—Methods used by State departments to get local communities to submit plans and specifications of school buildings for review

State	Re- quired by law	Persua- sion; no power to compel	State can withhold funds; pays maturity on bonded debt	State	Re- quired by law	Persua- sion; no power to compel	State can withhold funds; pays maturity on bonded debt
1	2	3	4	1	2	3	4
<b>Total</b> .....	<b>21</b>	<b>11</b>	<b>3</b>	New York.....	<sup>1</sup> X		
Alabama.....	X			North Carolina.....	X		
Arkansas.....		X		North Dakota.....	X		
California.....	<sup>1</sup> X			Ohio.....			X
Connecticut.....	X			Oklahoma.....		X	
Delaware.....			X	Oregon.....		X	
Florida.....	X			Pennsylvania.....	<sup>4</sup> X		
Georgia.....		X		Rhode Island.....	X		
Idaho.....	X			South Carolina.....	X		
Kentucky.....	X			South Dakota.....	X		
Louisiana.....	X			Tennessee.....		X	
Maine.....			X	Texas.....		X	
Maryland.....	X			Utah.....	X		
Michigan.....		X		Vermont.....		X	
Minnesota.....	X			Virginia.....	X		
Mississippi <sup>2</sup> .....				Washington.....		X	
Missouri.....		X		West Virginia.....	X		
New Jersey.....	X			Wisconsin.....		X	
New Mexico.....	X						

<sup>1</sup> Contract illegal unless plans are approved.

<sup>2</sup> Can persuade communities to submit plans and specifications through control over accreditation of schools.

<sup>3</sup> For buildings costing \$500 or over, except for places exceeding 50,000 population.

<sup>4</sup> Except in Philadelphia and Pittsburgh



### Approval of Plans and Specifications

The following 37 State departments reported that they approved plans and specifications: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Idaho, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, and Wisconsin. Twenty-nine of the 37 State departments reported that the approval had to be in writing (appendix table V).

The following qualifications were made by some States: Maryland reported that the State department employed a private architect on a fee basis to approve plans and specifications; Nevada reported "limited service"; New Hampshire said the State department approved plans "on request"; Ohio stated that only plans for PWA buildings were approved; and Vermont stated that only plans for standardized schools were approved.

Eight State departments, Colorado, Illinois, Indiana, Kansas, Massachusetts, Montana, Nebraska, and Oregon reported that they did not approve plans and specifications. Arizona, Iowa, and Wyoming did not reply.

In answer to the question of how State departments compelled local communities to abide by State department approval or disapproval of plans and specifications, 13 States, Connecticut, Florida, Kentucky, Louisiana, Maryland, Minnesota, North Dakota, Pennsylvania, Rhode Island, South Carolina, South Dakota, Utah, and West Virginia, replied that the local communities were compelled by law to conform to the approval or disapproval of the State department. Eight States, Delaware, Maine, New Jersey, New Mexico, New York, North Carolina, Ohio, and Virginia, said they could compel communities to abide by the approval or disapproval of the State department because they can withhold funds or refuse to approve bond issues. One State, Tennessee, can refuse to accredit schools. In 3 States, Alabama, California, and Missouri, control is exercised either through contracts or because final inspection is required before final payments are made to contractor (table 14).

Eleven State departments reported that the only means that could be used was persuasion. Of this number, Georgia, Mississippi, Oklahoma, and Wisconsin reported that the majority abided by the approval or disapproval of the State department even though persuasion was the only means available for securing compliance.



Table 14.—Methods used to compel local communities to abide by approval or disapproval of plans and specifications by State department

State	Required by law	Persuasion; compulsion not necessary	Can withhold funds; refusal to approve bond issues	Final inspection required; controls contracts
1	2	3	4	5
<b>Total</b>	<b>13</b>	<b>11</b>	<b>8</b>	<b>8</b>
Alabama				
Arkansas		X		X
California				
Connecticut	X			X
Delaware			X	
Florida	X			
Georgia		X		
Idaho		X		
Kentucky	X			
Louisiana	X			
Maine				
Maryland	X		X	
Michigan		X		
Minnesota	X			
Mississippi		X		
Missouri				X
New Hampshire		X		
New Jersey				
New Mexico			X	
New York			X	
North Carolina			X	
North Dakota	X			
Ohio			X	
Oklahoma		X		
Pennsylvania	X			
Rhode Island	X			
South Carolina	X			
South Dakota	X			
Tennessee				
Texas		X		
Utah	X			
Vermont		X		
Virginia			X	
Washington		X		
West Virginia	X			
Wisconsin		X		

<sup>1</sup> Can control because State pays annual maturities on bonded debt.

<sup>2</sup> Can control through accreditation of schools.

## Supervision and Inspection

**Supervision.**—Fourteen State departments of education stated that they supervised the construction of school buildings at the request of the local community: Alabama, Arkansas, California, Connecticut, Florida, Georgia, Louisiana, Missouri, New Jersey, North Dakota, Vermont, Virginia, Washington, and Wisconsin. Of this number North Dakota said the supervision was limited, Washington said "only where State funds are used."

The following 10 State departments reported that they had authority to supervise school building construction without the request of the local community: Alabama, California, Connecticut, Florida, Georgia, Idaho, New Jersey, North Dakota, Pennsylvania, and Virginia. Of this number Idaho and Pennsylvania stated that they did not supervise construction although they had the authority (appendix, table VI).

**Inspection.**—State departments were asked if they inspected school



buildings. A study of the replies revealed the fact that the understanding of the word "inspection" was not uniform on the part of those replying. For example, in some instances inspection was used to mean the technical inspection of the building when in progress of construction to see if there were any defects before making the final payment to contractors. In other cases inspection was used to describe the checking of the condition of the building by assistant superintendents or supervisors when they visited the building after construction. One State reported that the department "inspected for school building being suitable." Another reported that the department "inspected in connection with supervisory visits."

These facts should be taken into consideration in evaluating the following replies on the question of inspection: 33 State departments reported that they inspected school buildings: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Kentucky, Louisiana, Maine, Michigan, Mississippi, Missouri, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, and Wisconsin (appendix, table VII). Twenty-six of these 33 States reported that they had authority to inspect school buildings without the request of the local community.

The methods used by these States to compel local communities to carry out the decisions of the State departments relative to inspection are as follows: In 7 States, Connecticut, Florida, New Jersey, North Carolina, Vermont, Virginia, and Wisconsin, compliance is required by law; 2 States, Alabama and Maine, can withhold funds; 1 State, North Dakota, can withhold approval of plans; 1 State, South Carolina, can condemn the building; 1 State, Georgia, can refuse to accredit the school; 5 States, Louisiana, Ohio, Oklahoma, South Dakota, and Tennessee, said that no compliance was necessary, that persuasion was used; 3 States, Kentucky, Michigan, and Missouri said they had no adequate means; 6 States, Delaware, New Mexico, Oregon, Pennsylvania, Rhode Island, and West Virginia, did not reply (table 15).

In addition to the above 26 States, Idaho and Missouri reported that they had authority to inspect school buildings but did not actually inspect.

Ten States—Idaho, Illinois, Indiana, Kansas, Massachusetts, Minnesota, Montana, Nebraska, Nevada, and Utah—said they did not inspect school buildings. Five States—Arizona, Colorado, Iowa, Montana, and Wyoming—did not reply to the question on inspection.

### **Condemnation**

Thirteen State departments said they had authority to condemn



Table 15.—Methods used to compel local communities to carry out decisions of State departments after inspection of buildings

State	Required by law	Persuasion (none needed)	Can withhold funds	Can withhold approval	Can condemn	Can refuse to accredit schools
1	2	3	4	5	6	7
<b>Total</b>	7	8	9	1	1	1
Alabama						
Connecticut	X		X			
Florida	X					
Georgia						
Louisiana		X				X
Maine						
New Jersey			X			
North Carolina	X					
North Dakota	X					
Ohio		X		X		
Oklahoma						
South Carolina		X				
South Dakota					X	
Tennessee		X				
Vermont	X	X				
Virginia	X					
Wisconsin	X					

school buildings. These States were: Alabama, Florida, Georgia, Idaho, Minnesota, Montana, New Jersey, Pennsylvania, South Carolina, South Dakota, Utah, Virginia, and Wisconsin. Thirty States reported that they did not have such authority, and five did not reply to this question.

Of the 13 that had authority to condemn school buildings, 4 said that they had legal power to enforce their authority—Florida, Minnesota, New Jersey, and South Carolina. Utah stated that it could enforce its authority by closing school buildings; and Wisconsin stated that it could withdraw all county and State moneys if the local community did not comply with the decision of the State department on condemnation of school buildings (appendix table, VIII).

Nineteen State departments reported that the local community had authority to condemn school buildings. In 5 of these States—Florida, Georgia, Minnesota, Utah, and Virginia—both the local community and the State department have authority to condemn school buildings.

Other State agencies that have authority to condemn school buildings in the various States are as follows:

In seven States, Alabama, Connecticut, Minnesota, Montana, North Carolina, Oregon, and Tennessee, the agencies are the State department of health and the State fire marshal; in seven States, Florida, New Hampshire, New Mexico, North Dakota, Ohio, Vermont, and Washington, the authority rests with the State department of health alone; and in three States, Louisiana, Michigan, and West Virginia, the State fire marshal has charge. In California the divi-

sion of architecture condemns school buildings; in Kentucky the bureau of fire inspection; in Oklahoma the sanitary engineer and fire marshal; in Pennsylvania the State art commissioner; in Rhode Island the State and local building inspectors; in South Carolina the State sinking fund; in Utah the public service commission; in Virginia the commission of labor; and in Wisconsin the industrial commission (table 16).

Table 16.—State agencies other than State departments of education that have authority to condemn school buildings

State	State department of health and State fire marshal	State department of health	State fire marshal	Division of architecture	Bureau of fire inspection	Sanitary engineer and fire marshal	State art commissioners	State and local building inspectors	State sinking fund	Public service commission	Commissioner of labor	Industrial commission
1	2	3	4	5	6	7	8	9	10	11	12	13
<b>Total</b>	7	7	3	1	1	1	1	1	1	1	1	1
Alabama	x											
California				x								
Connecticut	x											
Florida		x										
Kentucky					x							
Louisiana			x									
Michigan			x									
Minnesota	x											
Montana	x											
New Hampshire		x										
New Mexico		x										
North Carolina	x											
North Dakota		x										
Ohio		x										
Oklahoma						x						
Oregon	x											
Pennsylvania							x					
Rhode Island								x				
South Carolina									x			
Tennessee	x											
Utah										x		
Vermont		x										
Virginia											x	
Washington		x										
West Virginia			x									
Wisconsin												x

<sup>1</sup> State department of health, State fire marshal, and State insurance commissioner.

<sup>2</sup> State department of health, State fire marshal, and State labor commissioner.

### State Departments That Give State Aid or That Make Loans for School Building Construction

**State aid.**—Three State departments reported that they gave State aid for school building construction: Missouri, New York, and Tennessee. Virginia reported that State aid was given for shops and home economics buildings.



According to the School Laws of Missouri, 1938, "When a district \* \* \* has acquired a site of not less than 5 acres \* \* \* and has erected a (central) high school building \* \* \* the State shall pay one-fourth of the cost of the building and equipment \* \* \* but not to exceed \$2,000." <sup>3</sup>

According to the School Laws of Tennessee, 1936, "Two and one-half percent of such part thereof (of the elementary school fund) as may be necessary (shall be set apart) for the purpose of encouraging and aiding standardization and consolidation of rural elementary schools and supervision of teaching in rural elementary schools, the same to be distributed under the regulations of the State Department of Education." <sup>4</sup>

According to the New York Education Law, "\* \* \* There shall also be apportioned and paid to each central rural school district established \* \* \* a quota to be known as a building quota, which shall be equivalent to one-fourth of the sum actually expended, on and after the taking effect of this act, for the erection, enlargement or remodeling of a school building in such district." <sup>5</sup>

The State Department of Washington reported that during the period of PWA grants and loans \$3,000,000 was appropriated by the legislature for school buildings and improvements. This sum was to supplement local sponsors' contributions in order to match Federal grants for school buildings.

Thirty-two State departments reported that they did not give State aid for school building construction. Thirteen State departments did not reply to this question.

*Loans for school buildings.*—Two State departments, Virginia and Wisconsin, reported that the State department makes loans for school building construction. In Virginia loans are made from the State literary loan fund to local school boards on application, subject to the approval of the State department. These loans shall not exceed three-fourths of the cost of the building. In Wisconsin the loans are made through the land commissioners. The loans are made for any amount at 2½ percent up to 20 years. Strictly speaking, therefore, the State department does not make these loans, although the loans are made only on approval of the State department.

Twenty-four State departments said that they did not make loans for school building construction. Twenty-two State departments did not reply to this question.

<sup>3</sup> School Laws of Missouri, 1938, sec. 9270-u, p. 53, and sec. 9357, p. 87.

<sup>4</sup> School Laws of Tennessee, 1936, art. XVIII, sec. 2406 (8), p. 91.

<sup>5</sup> University of the State of New York. Education Law Supplement 1938. Bulletin, No. 1139, art. 6-B, sec. 185, p. 64.



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## Chapter III

### Descriptions of School Building Work in Eight State Departments of Education

**T**HE PRECEDING CHAPTERS have summarized for all the States the organization of school building work in State departments of education, and the activities carried on in this field. The present chapter is devoted to a detailed description of the work on school buildings as carried on in 8 State departments of education. These 8 States were selected because they illustrate the various methods used in developing this work.

#### School Building Work in the Virginia State Department of Education

The work of the division of school building construction of the State Department of Education of Virginia is described in detail because it carries on all the types of activities on school buildings found in any State department of education, and in addition has certain unique features. For example it is one of the eight State departments which prepares plans and specifications for large school buildings and one of the five State departments that make State loans for school building construction.

*Organization.*—The work is carried on in a division of school building construction, the director of which is directly responsible to the State superintendent of public instruction. At the time of this study the staff consisted of nine regular full-time workers and additional part-time workers.

*Staff and budget.*—The staff in the spring of 1939 consisted of a director, supervisor of specifications, supervisor of school-house planning, supervisor of construction, supervisor of design, landscape architect, and three secretaries. The total budget was \$23,470.

During the year two additional architectural draftsmen and two additional secretaries were continuously employed on a temporary basis and paid from a special assessment on school divisions. In addition to these, 15 architectural draftsmen were employed on a temporary basis, working directly under the director of school building construction, but paid by local school divisions. The salaries of the above ranged from \$75 to \$300 per month. Since the budget for the State department is not broken down by divisions, supplies for the division of school building construction come from a common supply room for the State department as a whole. The budget for 1939 including the additional workers on a part-time basis amounted to approximately \$27,000.



During the year 1938-39 local school districts, which the division of school building construction served as architect, were assessed one-sixth of 1 percent to cover costs over and above normal operating costs of the division.

*School plant surveys.*—The division makes school plant surveys both on its own initiative and at the request of local school authorities. In 1938 the State department of education, in cooperation with the State Planning Board of Virginia, engaged in State-wide school plant surveys involving school enrollment spot maps for each county, and recommended locations for future consolidations of both elementary and high schools. In some cases these studies were conducted in cooperation with and at the request of the county school authorities, and in others the studies were conducted independently.

*Records of school plant situation.*—The State department of education requires city and county school divisions to send to the department annual inventories of conditions of school plants in these divisions. These inventories include all buildings in each school division; in Virginia the divisions are the independent cities and the counties. In connection with these inventories each school division is required each year to spot on a base map prepared in the State department, with appropriate symbols, the location of each new school building, and each school building that is closed for consolidation purposes or otherwise, thus showing the location of each existing school building used for school purposes in each division.

Spot maps are built up and revised when it is deemed necessary by submitting to each teacher a map to a scale of one-half inch to the mile, such map showing all primary and secondary roads, and the location of each school building. The teacher is required to mark on this map the approximate location of each pupil enrolled in school, both elementary and high. These small maps are returned to the department, and a large composite map is built up from these smaller maps.

The data on the inventory sheets are transferred to a master sheet, which, with a copy of the county map showing the location of each school building, is bound for ready reference and study of the school-housing situation in each school division.

If a school plant consists of more than one building the plant is identified by an index number, and a separate inventory sheet is used for each building. These inventory sheets are bound in booklet form, and sent to each division superintendent each year. The sheets are built up to cover a 5-year period.

*Standards for school buildings.*—There is no State school building code in Virginia but the State department sets up detailed standards for the construction of school buildings which the director of school buildings states has the force and effect of law because the board of



education may withhold certain State funds and refuse to make loans from the literary loan fund to any community that does not abide by the standards set up by the State department.<sup>6</sup>

*Plans and specifications for school buildings.*—The school building division of the State department prepares architectural drawings, plans and specifications for school buildings of any size. These plans and specifications are prepared for school buildings at the request of the local communities. Work is done for cities, but the major part of the work is concerned with school buildings in counties. It is estimated that 95 percent of all school building plans in counties are prepared by the school building division of the State department.

The advantages and disadvantages of the preparation of plans and specifications, as stated by the director of school building construction, are given in chapter II.

*Preparation of stock plans.*—The school building division prepares and distributes on request stock plans for school buildings for small units. The advantages and disadvantages of the preparation of stock plans as stated by the director of school building construction are given in chapter II.

*Preparation of room layouts.*—The school building division prepares, on the request of local communities, room layouts for different types of rooms. However, this is done in connection with the preparation of plans for a specific building.

*Preparation of plans.*—On request of the local community the school building division prepares plot plans, landscape development plans, and topographic maps of sites.

*Review and approval of plans.*—All local communities are required by law to submit plans and specifications for review by the State department and the approval or disapproval of the department is binding on the local community. Regulations of the State department for approval of plans are as follows:

**I. Approval of Plans and Specifications for School Buildings:**

- (a) No school building shall be contracted for, erected, or added to until the plans and specifications therefor shall have been submitted to and approved in writing by the State Superintendent of Public Instruction. The term "school building" shall include all buildings used for public school purposes.
- (b) Approval by the State Superintendent shall include the type of construction, location on the site and in the community, desirability and need of the new building, the size of the building, the educational and functional planning, the strength of materials and construction, maintenance, insurance, and such other pertinent factors that should be considered in the cost of planning and erection of school buildings.

<sup>6</sup> Regulations of the Virginia State Board of Education. Bulletin State Board of Education, 19: 13-30, January 1937.



- (c) Preliminary drawings showing the general layout of floor plans and elevations, along with the general descriptive specifications, shall be submitted to the State Superintendent for preliminary approval. (This procedure is required in order to prevent expensive changes that may be necessary in the finished working drawings and specifications.) It is also suggested and urged that the division superintendent and the architect consult personally the division of school buildings before preliminary drawings are made, or submit preliminary drawings in person.

**II. Procedure for Submitting Plans and Specifications to the State Superintendent of Public Instruction for Approval:**

- (a) Two copies of complete working drawings and specifications showing all details and describing fully all construction, materials, finish, etc., entering into the building shall be submitted to the State Superintendent for final approval by the division superintendent. When, and if, such final working drawings and specifications are approved they will be marked "approved" by the State Superintendent of Public Instruction, and one copy so marked will be returned to the division superintendent. If the plans are for an addition to a building already erected, such plans shall include all floor plans of the old building to which the addition is to be made, and at least one elevation of the old building, unless plans of old building are on file in the State Department of Education.
- (b) No changes, except minor changes not in conflict with these requirements and standards, shall be made in the plans and specifications as finally approved by the State Superintendent of Public Instruction, unless the changes desired are shown on new drawings and specifications, two copies of which are to be submitted to the State Superintendent of Public Instruction, and unless such changes as are shown in the revised drawings and specifications are approved by the State Superintendent.
- (c) In no case shall plans and specifications prepared for one specific building be used for constructing another school building, either in the same county or in any other county, unless approved in writing by the State Superintendent of Public Instruction.
- (d) With the exception of buildings that are approved as complete units in themselves, every school building or addition hereafter designed and constructed shall provide definitely for future extensions or enlargements, making the initial unit constructed as nearly a complete unit as practicable. The provision for future extensions must be definitely contemplated, and indicated so that such extensions will not require expensive alterations.
- (e) Alternates or options calling for material or construction or eliminations in either the specifications or plans must comply with these minimum requirements.
- (f) When plans and specifications are submitted to the State Superintendent for approval, satisfactory assurance must be furnished by the school board that adequate supervision will be provided.<sup>7</sup>

*Supervision of school buildings.*—The school building division supervises the construction of all buildings planned by the school building division as stated above. Ninety-five percent of all buildings in

<sup>7</sup> *Ibid.*, p. 14-15.



counties are planned by the school building division. It is stated that at present the lack of staff limits such supervision to buildings planned by the school building division.

*Inspection of buildings.*—According to the law the school building division must inspect all buildings for safety.<sup>8</sup>

*Condemnation of school buildings.*—The State department of education has authority by law to condemn school buildings. Under the general authority granted the State board of education (the Virginia Constitution, sec. 132) the board may make such laws as it deems best for supervision, inspection, and condemnation of school buildings.

*Other State agencies that have power to supervise, inspect, or condemn school buildings.*—The Virginia law gave authority to the commissioner of labor to require boards of supervisors and city councils to erect fire escapes.<sup>9</sup>

*Financing of school building construction.*—Loans from the State literary loan fund are made to local school boards on application, subject to approval by the State superintendent of plans and specifications for such buildings. Loans are made, not to exceed \$100,000, or three-fourths of the cost of the building. These loans are repayable in any term of years from 5 to 30 with interest rate of 4 percent.

*Operating relationships with other divisions in the State department of education.*—CURRICULUM: In planning new buildings the superintendents of schools, elementary and high school supervisors, and principals are usually consulted. There is a close coordination and working arrangement with the division of instruction and the division of school buildings.

HEALTH: The features of the school plant involving health are developed through the supervisor of health education in the State department of education and in the State department of health.

FINANCE: There is little relationship between the finance department or auditor of the State department of education and the division of school buildings except in certifying advances from the literary loan fund when loans are made on school buildings.

RESEARCH: As it now operates there is little relationship between the division of research and the division of school buildings.

*Operating relationships with local school authorities.*—There is close cooperation between local school authorities, the superintendent of schools, and local school boards. This usually involves a preliminary discussion of general plan outline, cost, location, type of construction, etc. As plans are developed, blueprints are forwarded to the local authorities for criticism, approval, and correction; as final working drawings are completed, they are approved by the division superin-

<sup>8</sup> Virginia Law, 19: 114, August 1933.

<sup>9</sup> Virginia School Laws, secs. 671, 3141.



tendent, as required by law, before they are placed on the market for contractors. Bids always are opened in the local school authorities' offices, and the division of school buildings serves in all respects as a private architect would serve except that it has advisory authority concerning approval of plans, procedures, etc.

*Cooperation with professional groups outside the department.*—There is close cooperation with the State planning board to determine the proper location of buildings in conformance with population trends. On all surveys of long-range planning for school buildings, the State planning board is represented and the study is made jointly by the State planning board and the division of school buildings of the State department of education. There is little operating relationship with parent-teacher organizations, architects' organizations, or playground and recreation associations.

*Cooperation with the Federal Government.*—Since 1934 there has been a close relationship between the division of school buildings and the Public Works Administration. Most of the school buildings erected in Virginia since the inauguration of the Public Works Administration have been under PWA grant. A relatively small proportion of school building work has been done under the Work Projects Administration, which has confined its activities to the erection of 1- and 2-room buildings, developing and surfacing play areas, salvaging from abandoned buildings, and drainage problems.

### School Building Work in the Minnesota State Department of Education

*Organization.*—In the Minnesota State Department of Education the work on school buildings is carried on in a division of buildings and business administration. There is a staff of three people, a director, a draftsman, and a clerical worker. It was reported that there is no school building budget "as such" but that the budget is part of the State department budget. The work on school buildings in Minnesota differs from that in Virginia in a number of ways. The chief differences are: First, in Minnesota the school building division does not prepare plans and specifications except for 1- and 2-room buildings, as plans for all school buildings are prepared by private architects; second, the State does not give either State aid or loans for school building construction; and third, no State-wide school building survey has yet been made.

*School plant surveys.*—The State department gathers statistics and information on a State-wide basis regarding certain phases of school buildings, but the director of buildings stated that "the Department has not as yet made a State-wide school building survey worthy of such designation."



*Records of school plant situation.*—The State department requires the following information on school plant situations to be reported each year:

Local school officials are annually required to fill out and return report forms supplied by the State department of education. The following information is requested: (1) Number of new schoolhouses built this year; (2) value of new buildings; (3) number of school buildings used for (a) elementary purposes only, (b) secondary purposes only, (c) elementary and secondary purposes, (d) not used at all; (4) value of all sites and buildings; and (5) value of equipment.

Information is collected by the State department regarding the cost of the school building projects completed within a given year. This report is detailed and does not duplicate the report mentioned above regarding the number of new school buildings erected or the value of school buildings and sites.

School boards in common (rural) school districts are required to report each year whether they have an approved system of heating and ventilation in their school buildings.

Expenditures for operation, janitors' salaries, fuel, supplies, etc., and for maintenance, repairs, and equipment of buildings and upkeep of grounds are, of course, also collected each year for each district in the State.

*Standards for school buildings.*—The director of buildings said: "There is no State school building code if this term applies to a construction code such as one finds in certain municipalities." Standards are printed as *Laws and Rules Governing School Building and Sites*. The latest date of publication of these standards was June 1928. The standards are binding upon the local community because the State department has power to withhold approval of the building until the standards are conformed with. Minnesota also uses the standards of the National Council on Schoolhouse Construction.

*Preparation of plans and specifications.*—The school building division prepares plans and specifications only for 1- and 2-room schools. Private architects prepare the other plans. The law does not require architects or local school officials to submit plans and specifications in the preliminary stage; the law permits plans and specifications to be submitted to the State department for examination and approval in the form of working plans and specifications. The director of buildings stated, however that "as a matter of fact practically all the school architects in the State now submit the projects to the department in the preliminary stage."

The director of buildings considers that the advantage of the State department preparing plans is that the State can render this service to local communities whose building projects are too small to attract the services of competent architects. The disadvantages are that if



the State assumes such responsibility it requires maintenance of a competent staff for which sufficient funds are difficult to secure. Also "ill feeling and criticism is sometimes engendered toward the State for encroaching on private enterprise, and disproportionate time and effort are required to render such service."

*Stock plans.*—The school building division prepares stock plans and room layouts. The advantages and disadvantages of stock plans in Minnesota are given in chapter II.

*Review and approval of plans.*—The School Laws of Minnesota, 1913, amended 1939, definitely require the State board of education to prescribe rules and to examine all plans and specifications for school building projects and to approve the same before contracts are let or public funds are expended for the erection, enlargement, or change of school buildings. This statute requires all school boards in Minnesota to secure the approval of the State board of education for building projects. It does not set up any machinery whereby the State department can compel local school boards to submit plans and specifications for building projects for examination and approval, but that is not necessary. The law is mandatory, not discretionary, and school boards are required to submit plans and specifications for approval. They could be removed from office if they did not comply with legislative mandate. The director of buildings stated that: "It is true, however, that some small projects, such as, for example, the remodeling of a roof, the removal or erection of a partition between classrooms, are not always submitted to the State department for approval, and certain projects are completed about which we are not informed. Although it is true that no specific machinery is provided by statute whereby we can compel local school boards to submit plans and specifications to our office for examination and approval, the statute does require school boards to do so. The fact that some small projects may not come to the attention of the department does not change the essential fact that school boards are required to comply with requirements of the State board of education and to secure the approval of our office before contracts are let or public funds expended for school building projects."

*Supervision and inspection of school buildings.*—The director of buildings stated that:

It is true that the State Department does not supervise school-building construction in the sense that an architect or a full-time superintendent does. However, the Director of Buildings has authority to enter any public-school building in the State at any time and this power is not limited to small school buildings alone. \* \* \* It is true also that for projects for which we supply plans and specifications, we interpret plans and specifications in case questions arise between the contractor and the school board, and we are sometimes called upon to inspect a building to ascertain whether or not plans and specifications have been met. This does not mean, however, that we supervise school-building construction within the full meaning of that term.



*Condemnation.*—The State department of education has legal authority to condemn school buildings.

*Financing of school buildings.*—The State department does not at present give State aid for school buildings nor does it make loans for school-building construction. The State executive council and the legislative emergency committee, which have had money at their disposal to give to local school districts to aid them in constructing school buildings, request the State department of education to recommend whether funds for building purposes should be granted. There is no legal requirement, however, that approval of the State department of education is necessary before State agencies can give financial assistance for school-building construction.

### School Building Work in the Wisconsin State Department of Education

In Wisconsin the work on school buildings is under the school-building service. Unlike either Virginia or Minnesota, the State department does not have legal power to compel compliance with the approval or disapproval of the State department with regard to plans for school-building construction.

*Staff and budget.*—The staff consists of a supervisor, an assistant, and clerical staff. The total budget is \$7,550.

*School plant surveys.*—The school-building service makes surveys at the request of local communities, and 62 such surveys have been made in the last 15 years. Surveys are made for individual schools, but usually for groups of schools on the basis of a 10-year period or longer, and checked and kept up to date so far as possible. For example, there have been eight extensions of previous surveys.

*Records of school plant.*—No records are required on the school plant situation in different communities but general information is usually on file.

*Standards for school buildings.*—The school-building service sets up standards which are submitted to local communities when the latter ask for assistance. In nearly all cases the suggestions made by the State department in regard to standards for and space dispositions in new school-building construction are carried out.

*Plans and specifications.*—The school building service prepares plans and specifications for 1- to 4-room buildings consisting of 50,000 cubic feet of net usable space. The supervisor considers that there are decided advantages in the school building service making plans and specifications for school buildings. "Since the School Building Service constantly receives information on local needs through reports of the supervisors and through surveys, it is possible to design the buildings to fit local needs. Furthermore, it represents a financial saving to the local community."



*Stock plans.*—The supervisor reported that no stock plans were used but that he had on file 338 different plans of buildings prepared in connection with specific situations and that these are supplied to communities as suggestive material or samples on the basis of which new or modified plans can be developed.

*Room layouts.*—The service prepares many room layouts of different types of rooms and also prepares plot plans and topographic maps of sites at request of the local community.

*Review and approval of plans.*—Communities are not compelled by law to submit plans to the State department for review but the majority voluntarily submit plans and, furthermore, although the approval of the State department is not binding on the local community, the large majority abide by the approval or disapproval of the school building service. "The Service is legally powerless to require changes," said the supervisor, "except through condemnatory statute whereby an existing building may be condemned. This statute is invoked about 6 times per year."

*Supervision and inspection.*—The school building service does not supervise construction of buildings erected from its own plans but on request makes interim inspections at no cost except for traveling expense. It also makes final inspections. The final inspection is mandatory; the interim inspection is voluntary. Some building inspections are made by inspectors of the graded and high schools. They check the building carefully for fire hazards, safety, and sanitary conditions. These inspectors consult with the supervisor of the school building service concerning their inspections and may have orders issued which are mandatory.

*Condemnation of school buildings.*—The State department has authority to condemn school buildings but a hearing may be held with regard to that decision upon written request of the local board. The State superintendent can legally order school officers to repair, remodel, or construct a new building in place of the condemned building and can withdraw all State or county money until compliance with the order.

*Finance.*—The State department does not give State aid for school buildings but the State does make loans through the land commissioners. The loans are made in any amounts at 2½ percent up to 20 years. As a matter of fact, this means that although the Wisconsin State Department does not have legal power to compel local communities to submit school building plans for review nor power to compel compliance with approval or disapproval of such plans, yet the department does have some control over the construction of school buildings because the State can withhold loans for school-building construction.



## School Building Work in the Mississippi State Department of Education

The organization of work on school buildings and the activities in this field carried on by the State department are illustrative of the rapid strides which have been made in the last 15 years in the South in the systematic study of school building needs and the progress made in meeting these needs. As a result of pioneer work in the school building field by Prof. Fletcher B. Dresslar, of George Peabody College, Nashville, Tenn., school building divisions were established several years ago in Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Texas. At first these divisions were operated through grants from the General Education Board but later the State departments of education in these States took over and financed the work.

Since limitation of space makes it impossible to describe the work in each of these States, Mississippi has been chosen as an example because the accommodations in that State, prior to the establishment of the school building service, were so limited that the work accomplished in the last 10 years is noteworthy as indicating what can be done in improving conditions when funds and expert staff are made available.

The director of school building service in the Mississippi State Department of Education reported that the purpose of the school building division is threefold:

1. To foster the construction of hygienic, educationally efficient school plants.
2. To eliminate waste in the planning and construction of the school plant.
3. To foster the proper use and care of the school plant.

*Staff and budget.*—The staff consists of 3 people, a director, an assistant, and a clerical worker. The budget for salaries and travel is \$7,800. The director thinks that in order to do the work effectively there should be added to the staff an engineer, a draftsman, a landscape specialist, and an additional secretary.

*School plant surveys.*—During the school year of 1934-35 a survey was made of the school plant facilities of the public schools of Mississippi. The director reported that:

This survey included a very detailed report of the plant property in each of the 5,554 public schools in operation during that year. This survey was financed by the Civil Works Administration. Many serious deficiencies in the school plant of the public schools were revealed by this survey. More than 1,500 of the public schools were without publicly owned plant facilities of any description. Hundreds of the schools were without water supply, sanitary facilities, and other such necessities.

The survey revealed that Mississippi's investment in the school plant averaged \$69 per child enrolled in school, including both white and Negro



schools. The school plant investment was \$125 per child enrolled for the white schools alone. At this time the school plant investment per child enrolled for the whole United States was \$250. In spite of all these conditions, Mississippi had invested a greater part of her taxable wealth in the school plant than the average State. Four-tenths of one percent of the taxable wealth of the United States was invested in the school plant while Mississippi had so invested fifty-eight hundredths of one percent of her taxable wealth.

*Records of school plant situation.*—In connection with the annual reports from each school district, the following data are collected on school buildings:

*Capital outlay*

1. New buildings constructed during the year.
2. Additions, alterations, etc., to old buildings.
3. Additional grounds for school use.
4. New school equipment, desks, blackboards, chairs, etc.
5. Other outlay expenses.
6. Total capital outlay.

*Maintenance of school plant*

1. Cost of repairs to buildings and equipment.
2. Cost of old equipment replaced.

*Cost of transportation.*

In addition to these data each county is responsible for maintaining a map of the county (scale, 1 inch equals 2 miles) on which the various school districts, locations of schools, State and paved highways, and dirt roads are shown in different colors.

*Standards for school buildings.*—There is no State building code in Mississippi but the school building division uses the standards of the National Council on Schoolhouse Construction in guiding construction. The State department does not have legal power to enforce observation of these standards but it is able to secure compliance through accreditation of schools and also through the voluntary action of the local communities.

*Preparation of plans and specifications.*—The division prepares plans for school buildings at the request of the local community but endeavors to limit this work as much as possible. Usually the work consists of sketch plans made after preliminary surveys and submitted to the private architect on the basis of which he designs and plans the buildings.

*Stock plans.*—Stock plans are prepared by the division for smaller buildings but the preparation of stock plans is considered very unsatisfactory because any given stock plan rarely fits a specific situation very well. However, it is considered by the director that the preparation of room lay-outs which are also prepared by the division are of decided value to local communities. The division prepares lay-outs for agriculture and home economics rooms, science departments, elementary classrooms, and other rooms.



*Review and approval of plans.*—It was reported that plans were submitted to the State department for review. Although there is no law compelling local communities to submit plans, it is estimated that 95 percent of the plans for school buildings are sent to the State department for review. The State department approves plans. Although there is no law which makes the department's approval binding on the local community, it is estimated by the director that the majority of communities abide by the decision of the State department.

*Supervision, inspection, and condemnation of school buildings.*—The division does not supervise construction of school buildings but does inspect school buildings at the request of the local community. It does not have power to inspect without such request. The State department does not have legal authority to condemn school buildings, nor does the local community have such power.

*Financing of school building construction.*—The State department does not give either State aid or loans for school building construction.

In addition to the above information the director of school building service in Mississippi gave the following report on the school building situation in Mississippi:

During the past 2 years Mississippi has greatly improved her school plant facilities. School buildings, equipment, and sites were valued at approximately \$40,000,000 at the beginning of the biennium. During the biennium this investment has been increased more than 8½ million dollars, or more than 20 percent. This has been by far the most extensive plant program Mississippi has ever had. Assistance from the Federal Government has made it possible for these greatly needed facilities to be provided. This assistance has come through several different agencies of the Government. Among these agencies are the Public Works Administration and the Works Progress Administration.

The Public Works Administration has aided in the improvement of the school plant to the extent of more than \$5,000,000. Almost half of this amount was in direct grants from the Government. In many instances the remaining funds needed for a program were loaned by the Government at four percent interest. In each instance the facilities provided in this program were carefully planned with reference to long-time educational needs of the community. Each one of the projects included in this program is, therefore, a good example of sound educational planning.

### **School Building Work in the Washington State Department of Education**

*Organization.*—In the Washington State Department of Education there is no one person or staff that gives full time to school building work. Nor is there any budget set aside specifically for school building work. The assistant superintendent of schools is appointed as "adviser on school buildings and school building financing." It was reported that the assistant superintendent gave 60 percent of his time to this work.



The State superintendent reported that he considered it desirable to have a school building division directly responsible to the State superintendent and consisting of the following staff: An adviser on school finance, an architect, a certified building engineer, and clerical workers. He estimated the necessary budget at \$15,000 a year. In addition it was stated that it would be desirable to have a commission on school buildings consisting of the above three employees, a local school building member, and a local architect, authorized by the legislature to serve for each school building project.

*School plant surveys.*—The State Department reported that school building surveys were made through the State planning commission "when and if made." Such surveys are made on requests of local communities and are kept up to date "insofar as possible."

*Records of school plant situation.*—Reports to the State department on the condition of the school plant from city, county, and district superintendents are not required.

*Standards for school buildings.*—There is no State school building code although one is planned. However, Washington is one of the 21 State departments of education that publishes printed standards for the guidance of local communities. A pamphlet published in 1933, *Representative School Buildings*, consists of 20 pages of recommended standards for the planning and construction of school buildings and over a hundred pages of photographs and floor plans of new elementary and high school buildings erected in Washington. These standards cover not only recommendations in regard to heating, ventilating, lighting, and sanitation but also suggestions for the planning of auditoriums, gymnasiums, and special-purpose rooms such as libraries, shops, etc. (appendix B).

It was reported that the State department has no legal power to compel local communities to follow these standards but that compliance is secured through persuasion and leadership.

*Plans and specifications for school buildings.*—The State department does not prepare any plans and specifications for schools of any size. All plans are prepared by private architects. The Department does not design but does distribute room layouts as suggestive material to local communities, and also gives assistance in locating and planning the site, in landscaping development, and in the treatment of soil for playground surfacing.

*Review and approval of plans.*—The submission of plans and specifications by local communities to the State department for review is entirely voluntary. It was reported that the State department has no power to compel the local communities to submit plans but that the communities do submit them.

*Approval of plans and specifications.*—It was reported that the State department approves plans and specifications but that it is optional



only. The department has no power to compel local communities to abide by the approval or disapproval of plans and no means except persuasion are used to compel such compliance.

*Supervision of school buildings.*—The State department does not supervise construction of school buildings except that, where State funds have been appropriated for the building, there is supervision to see that the plans and specifications are followed.

*Inspection of school buildings.*—The State department inspects school buildings at the request of the local community. It does not have local authority to inspect without the request of the local community.

*Condemnation of school buildings.*—The State department does not have power to condemn school buildings. This power is vested in the State department of health and the local community.

*Financing of school building construction.*—The State department gives grants to school districts for aid in school building construction. Three million dollars was appropriated for this purpose in 1938-39. This sum was to supplement local resources and to match Federal grants and assistance from the Public Works Administration.

Before making such grants the State department sent to each community the following statement:

***The Following Facts Should Be Known By School Boards***

Before the State will consider a grant for aid to school districts for buildings or other improvements, the Department of Education must certify that the following conditions have been met:

1. The need for the project must be urgent.
2. The district must have exhausted every local effort.
  - (a) by levying full millage.
  - (b) by voting special levies.
  - (c) by bonding to the full limit.
3. The district must be able to support its full share of obligation on bonds and upkeep of improvement without lowering educational standards.
4. Funds for the project must not come from regular millage at a sacrifice of educational standards.

\* \* \* \* \*

It is well to observe the following general related questions when contemplating improvements:

1. Will better results over a period of years be realized by consolidation, or by your building program?
2. Will building improvements contribute to a lasting well-defined plan for community improvement as well as a real asset to your education program?
3. Have you in mind a wholesome balance of interest and support between your elementary schools and your high schools?
4. Will your building program be satisfactory to your taxpaying patrons?
5. Is your building plan the outgrowth of the real needs of your schools?



6. Does your whole board approve the plans submitted?

REMARKS:

An explanatory letter setting up the detailed needs of your schools should be sent to this Department along with your other district reports. You should provide this Department with all available facts to show the real needs of your school.

*General District Information*

1. Name of school.....
  2. District number..... County.....
  3. Kind of district.....
  4. Valuation \$.....
  5. Current year general levy.....
  6. Special levy, mills..... When voted.....
  7. Bonds outstanding \$.....
  8. Warrants outstanding \$.....
  9. Other debts \$.....
  10. Number of buildings..... Kinds: Elementary..... High.....
  11. Enrollment: High..... Elementary.....
  12. Number of teachers: High..... Elementary.....
  13. Are new building improvements needed?..... Estimated costs of building.....
  14. Would they be financed by: Local bonds \$.....  
Special levy \$.....  
State and/or Federal grants \$.....
  15. Do your building improvement plans meet public approval?.....
  16. Is your school building a community center?.....
  17. Would consolidation seem feasible?.....
  18. Number of transportation routes..... Busses.....
  19. What new maintenance costs will be added?.....
  20. Maximum salaries: High \$..... Minimum high \$.....
  21. Maximum salaries: Elementary \$..... Minimum elementary \$.....
  22. Is your building program approved by county superintendent?.....
  23. Your county superintendent is.....
  24. Your school board clerk..... Chairman.....
  25. Who is your superintendent?..... Principal.....
- The foregoing report is made by:
- Supt. ....
- Clerk .....

*Operating relationships with other divisions in the State department of education and outside agencies.*—When a new building or addition is planned, principals and teachers are asked to cooperate in the preparation of a school program showing the kind of facilities needed, and the doctors, nurses, and play directors are always consulted. The assistant superintendent in charge of school buildings is also in charge of research. It was reported that the State department cooperated in school building work with the local school authorities, professional groups outside the department, and the Federal Government.

### School Building Work in the Oregon State Department of Education

*Organization.*—In the Oregon State Department of Education there is no one person or staff that gives full time to school building work. It was reported that the work on school buildings is allocated to the director of school administration and secondary education and that this director gives 20 percent of his time to school building work.

The State superintendent stated that he considered it desirable to have a school building division with at least one person in charge of the work, a clerical assistant, and a budget for travel. He said that he considered that this staff and a budget of at least \$4,800 were "very much needed due to the large amount of money invested in school building construction." He added that funds were also needed for supervision and inspection of school buildings.

*School plant surveys.*—It was reported that the State department had made a school building survey in 1934 on its own initiative. It was also reported that the department had made a few surveys at the request of local communities but "we rather prefer that local communities employ some one to do it. Generally the local communities have employed persons from the University of Oregon for this purpose. However, the State department could keep one person busy on this one activity."

*Records of school plant situation.*—The State department does not require annual reports from city, county, and district superintendents on the condition of school plant. The district clerk's annual report merely calls for the number of existing school buildings of various types, the number of new buildings constructed during the year, and the estimated value of school building grounds and equipment.

*Standards for school buildings.*—There is no State school building code. There is a State building code but "it is not particularly applicable to schools." The Oregon State Department of Education, however, is one of 21 State departments that publishes printed standards on the construction and care of school buildings. A pamphlet published in 1937, *A Manual on the Construction and Care of School Buildings*, covers not only standards in regard to heating, ventilating,



and general construction, but also standards for auditoriums, gymnasiums, special-purpose rooms, sites, and playgrounds (appendix B). It was reported that these standards are merely suggestions to the local community and that the local school authorities do not have to follow them.

*Plans and specifications for school buildings.*—The State department does not prepare plans and specifications of school buildings. All such plans are prepared by local architects. "The law compels the employment of private architects for any public building with more than 4,000 square feet of floor area or for buildings of a certain height."

The State department used to prepare stock plans of school buildings but discontinued this practice. It does prepare and distribute suggestive room layouts for shops, home economics, and libraries, and also prepares directions for treatment of soil for playgrounds.

*Review and approval of plans.*—The State department reviews plans and specifications of school buildings but it is not mandatory for local communities to submit such plans to the State department, "although it is frequently done." The State department approves or disapproves plans and specifications when submitted but it is not mandatory for local communities to submit such plans. "They do so frequently on a voluntary basis."

*Supervision and inspection of school buildings.*—The State department does not supervise the construction of school buildings either on its own initiative or on the request of local communities. It was reported that the State department inspects school buildings "in connection with the supervisory visits of State department officials."

*Condemnation of school buildings.*—The State department has authority to report that a building is below standard but it does not have authority to condemn school buildings. That authority is vested in the local community and in the State fire marshal, State board of health, and State labor commissioner. It is mandatory on the part of the local communities to carry out the written recommendations of the State fire marshal. The local district can request the State labor commissioner to inspect for safety. The cost of inspection is paid by the local district.

*Financing of school building construction.*—The State department of education does not make grants or loan money for school building construction, although it was reported that "the director of education in an emergency may make grants from the income of permanent school funds."

*Operating relationships with other divisions in the State department of education and with outside agencies.*—It was reported that the State department cooperates "wherever possible with local school authorities, professional groups outside the Department, and the Federal Government."



## School Building Work in the Idaho State Department of Education

*Organization.*—There is no one person or staff that gives full time to this work. The work is allocated to the following people: The assistant superintendent, who gives 5 to 8 percent of his time to this work; an insurance clerk; and an architect in the employ of a local lumber company, who gives some time to this work in addition to full-time private employment. He is paid a fee of \$1 to \$2.50 for each plan examined. His fee is paid by the local school district which submits the plans to the State department for approval.

It was reported that it was considered desirable to have a division of school buildings but that "other much needed services needed to be developed in the State department ahead of schoolhouse planning as, for example, a State department office personnel available to work with county superintendents on pupil accounting and public school auditing, additional elementary school supervisors, and a research division."

*School plant surveys.*—It was reported that the State department made a school building survey as part of a general survey more than 5 years ago. In 1939 the State department cooperated with the Idaho State Planning Board in making a school building survey. The State superintendent in asking the cooperation of city and county superintendents in this study stated that the main objectives of the survey were:

1. To develop interest in planning a long-range public works program.
2. To encourage sound financing of needed projects rather than the adoption of a huge spending program.
3. To assist the local community in preparing a consultative program beneficial to the greatest number.
4. To weld the programs as initiated by the local community into a balanced and adequate State and regional plan.
5. To place the needs for public works construction before interested State and Federal agencies.

With this statement there were attached forms calling for specific information on school buildings.

*Records of school plant situation.*—The State department does not require annual reports from city and county superintendents with regard to the condition of the school plant.

*Standards for school buildings.*—The Idaho State Department of Education is one of 21 State departments that publishes printed standards on school buildings for use by local communities. However, these standards refer only to 1- to 3-room buildings (appendix B). A pamphlet published in 1927, *Schoolhouse Plans for One, Two, and Three Room Buildings*, covers regulations in regard to safety, heating, lighting, ventilating, sanitation of school buildings, and certain general construction standards with regard to classroom con-



struction. The pamphlet does not include standards for auditoriums, gymnasiums, and special purpose rooms, but it does include standards with regard to site, detailed recommendations for the landscaping of sites, and suggestions as to location, grading, and surfacing of playgrounds.

These standards for 1- to 3-room buildings are binding on the local community. It was reported that they have the force and effect of law, but that "they are not followed through to construction," and that there is no adequate method for compelling compliance with the standards except through the preliminary inspection of plans.

*Plans and specifications for school buildings.*—The State department does not prepare plans and specifications for school buildings. "The law requires that a private architect be employed for all school buildings where the value is \$7,500 or more and in rural areas in every instance."

The State department does prepare stock plans for 1- to 3-room buildings as suggestive material for local communities. It is considered that this is an economy to the district and that it makes possible some direction as to the type and construction of building. The department does not prepare room layouts or plot plans nor does it give directions as to treatment of soil.

*Review of plans.*—The State department reviews plans and specifications. It is required by law that local communities submit plans and specifications to the State department for review. It was added that "some are not submitted but nothing is done about it."

*Approval of plans and specifications.*—The State department approves plans and specifications of school buildings and grounds. The local communities are required by law to abide by the approval or disapproval of the State department but it was stated that "there are no adequate means of enforcement of this legal requirement although the State Board of Education is charged with this responsibility."

*Supervision and inspection of school buildings.*—It was reported that the State department has authority to supervise and inspect school buildings but does not carry on this work.

*Condemnation of school buildings.*—The State department has legal authority to condemn school buildings but it was reported that there are no adequate means for enforcing this authority.

*Financing of school building construction.*—The State department does not give State aid or make grants to local communities for school building construction but loans on bonds are available to school districts from the State department.

*Operating relationships with other divisions in the State Department of Education.*—It was reported that the State department cooperates with principals, doctors, nurses, and play directors locally in the preparation of the school building program but "not in an organized



way." It was also reported that there was cooperation with local school authorities, professional groups outside the department, and the Federal Government.

### School Building Work in the Maine State Department of Education

*Organization.*—In the Maine State Department of Education there is no one person or staff that gives full time to school building work. The work is allocated to the agent for rural education who gives approximately one-sixth of his time to the work. The State superintendent reported that he did not consider a school building division desirable.

*School plant surveys.*—With regard to conducting school building surveys it was reported that the State department gives "consultative service rather than surveys" and that the department did not "generally" make surveys on its own initiative.

*Records of school plant situation.*—The State department does not require city and district superintendents to make annual reports on the condition of the school plant.

*Standards for school buildings.*—There is no State school building code. The Maine State Department of Education is one of 21 State departments that publishes printed standards on school building construction. A pamphlet published in 1936, *Minimum Requirements for Approval of Buildings*, consists of regulations for safety, lighting, ventilating, heating, and sanitation, and some standards with regard to the dimensions of classrooms. There are no standards for auditoriums, gymnasiums, or special-purpose rooms and none for sites or playgrounds (appendix B).

The standards which do exist are binding on local communities. The State department can withhold funds for local budgets if these standards are not complied with.

*Plans and specifications for school buildings.*—The State department does not prepare plans and specifications for school buildings. All school building plans are prepared by private architects. The department does prepare stock plans for buildings of 1 to 5 rooms. It does not prepare room layouts, plot plans, or directions for treatment of soil for playgrounds.

*Review of plans.*—The State department reviews plans and specifications for school buildings and it was reported that local communities in all cases submit such plans to the department for review. It was reported that if they did not submit plans the department could withhold State funds for local budgets.

*Approval of plans.*—The State department approves plans and specifications. According to the School Laws of Maine, Sec. 14, Ch. 19, " \* \* \* all plans and specifications for any \* \* \* pro-



posed school building and plans for the reconstruction or remodeling of any school building, the expense for which shall exceed \$500, shall be submitted to and approved by the Commissioner of Education and the State Bureau of Health and must comply with 'State of Maine plumbing regulations' before the same shall be accepted by the Superintendent of School Committee or School Building Committee of the town in which it is proposed to erect such building." The law also provides that when the building is ready for occupancy the local school building committee "shall report to the Commissioner of Education on blanks furnished by said Commissioner such facts \* \* \* and shall indicate whether or not the proposals \* \* \* previously approved have been made. Whenever it shall appear to the Commissioner of Education that such approved plans \* \* \* have not been carried out he may cause an inquiry of said building \* \* \* and shall notify said committee if changes are required \* \* \* and it shall be the duty of said committee promptly to make such changes."

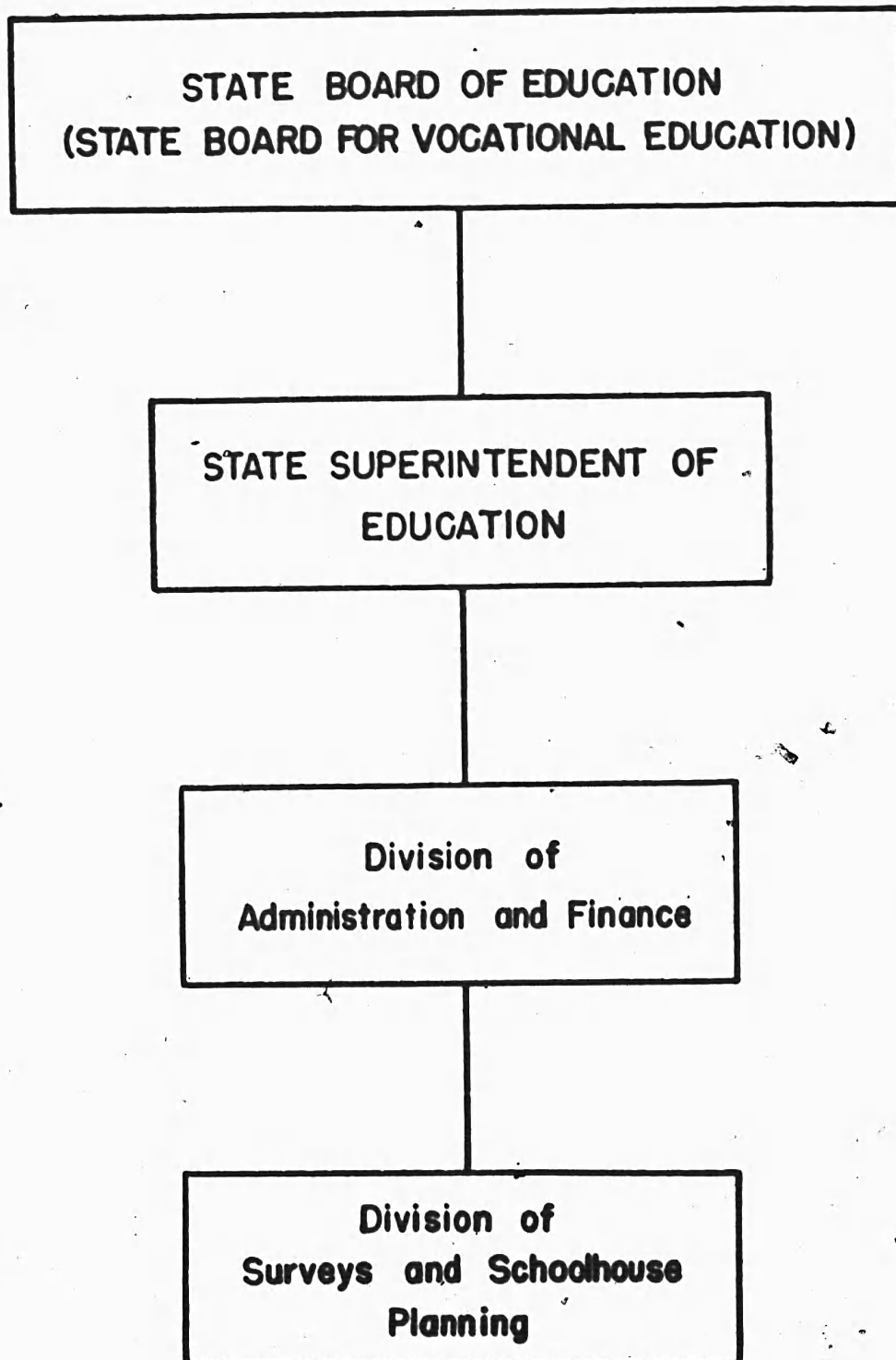
*Supervision, inspection, and condemnation of school buildings.*—The State department does not supervise school buildings and does not have legal authority to do so. The department does have authority to inspect school buildings and inspects them "especially for accreditation." It can withhold State funds for the local school district if the recommendations growing out of inspection are not complied with. The State department does not have power to condemn school buildings.

*Financing of school building construction.*—The State department does not give grants or loans to local communities for the construction of school buildings.

*Operating relationships with other divisions in the State department of education.*—The agent for rural education carries on general cooperation with all department personnel in connection with school building work.

## **Appendix A**

### **Charts Showing the Location of School Building Work in 22 State Departments of Education**



**Chart 1.—ALABAMA.**



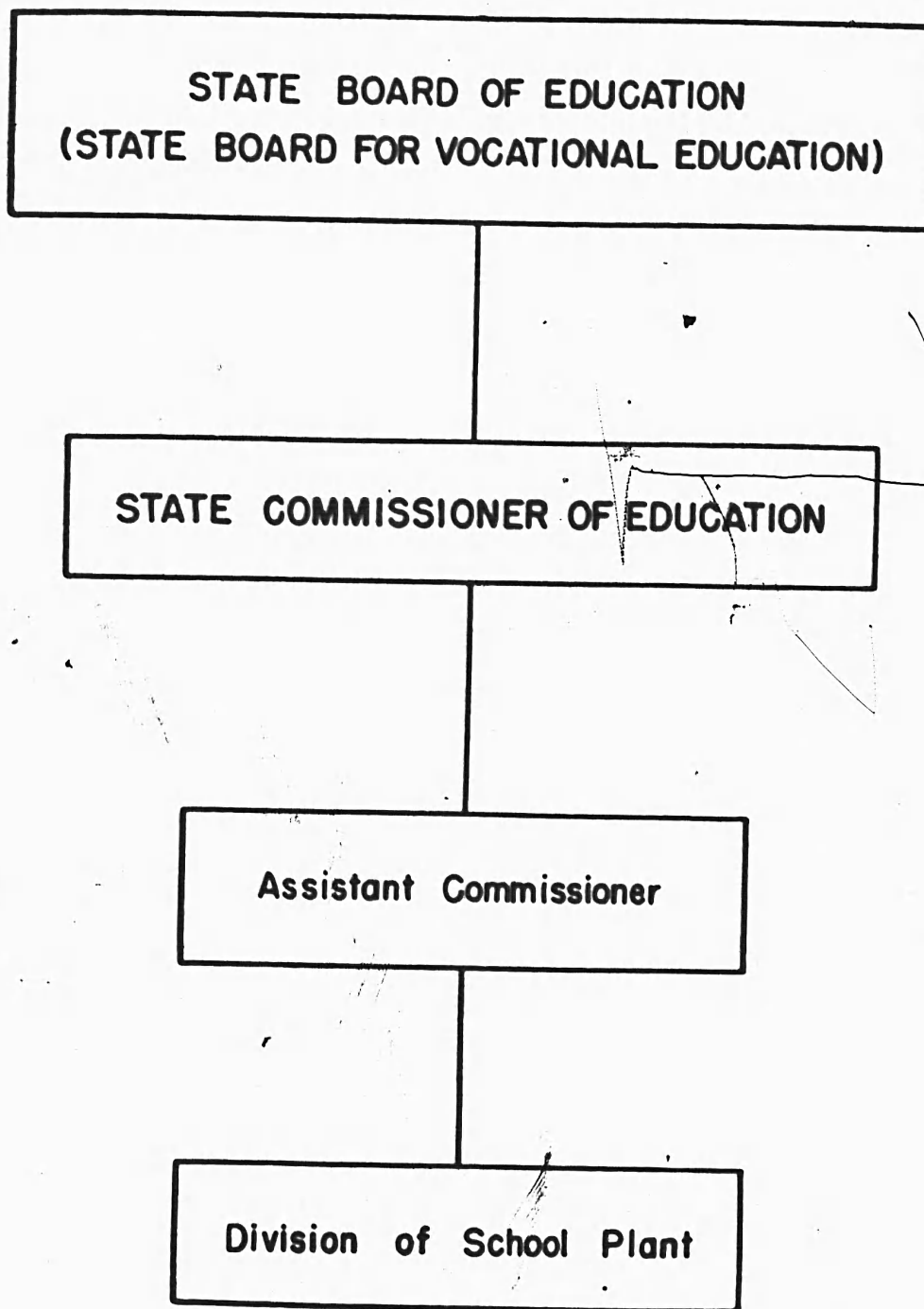


Chart 2.—ARKANSAS.

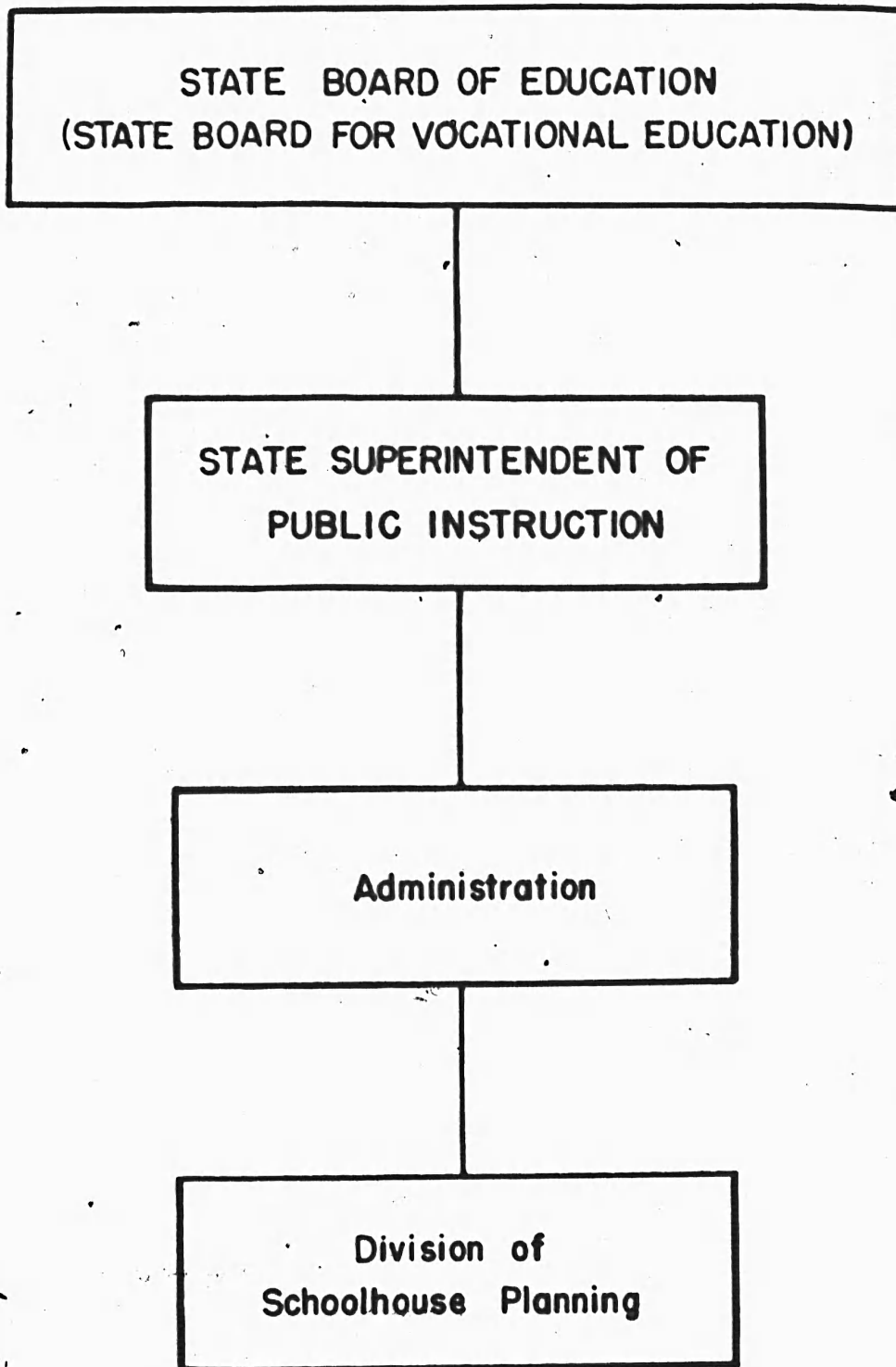


Chart 3.—CALIFORNIA.



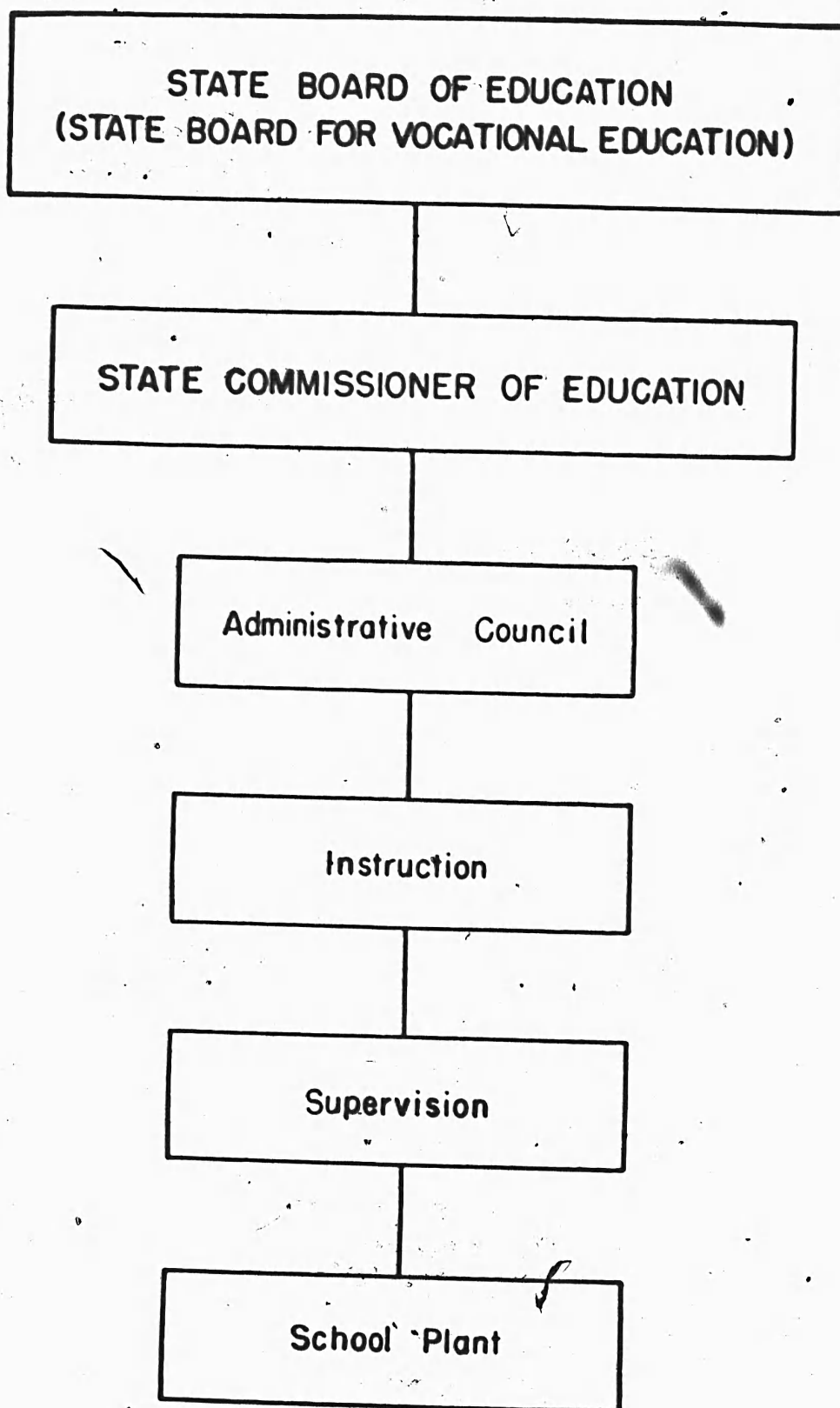


Chart 4.—CONNECTICUT.

STATE BOARD OF EDUCATION  
(STATE BOARD FOR VOCATIONAL EDUCATION)

STATE SUPERINTENDENT OF  
PUBLIC INSTRUCTION

Division of  
Administration and Finance

School Plant Planning  
Service

Chart 5.—FLORIDA.



STATE BOARD OF EDUCATION  
(STATE BOARD FOR VOCATIONAL EDUCATION)

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graph TD; A[STATE BOARD OF EDUCATION  
(STATE BOARD FOR VOCATIONAL EDUCATION)] --> B[STATE SUPERINTENDENT OF SCHOOLS]; B --> C[Division of Schoolhouse Construction];
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STATE SUPERINTENDENT OF SCHOOLS

Division of Schoolhouse Construction

Chart 6.—GEORGIA.

STATE BOARD OF EDUCATION  
(STATE BOARD FOR VOCATIONAL EDUCATION)

STATE SUPERINTENDENT OF  
PUBLIC INSTRUCTION

Division of School Buildings  
and Grounds

Chart 7.—KENTUCKY.



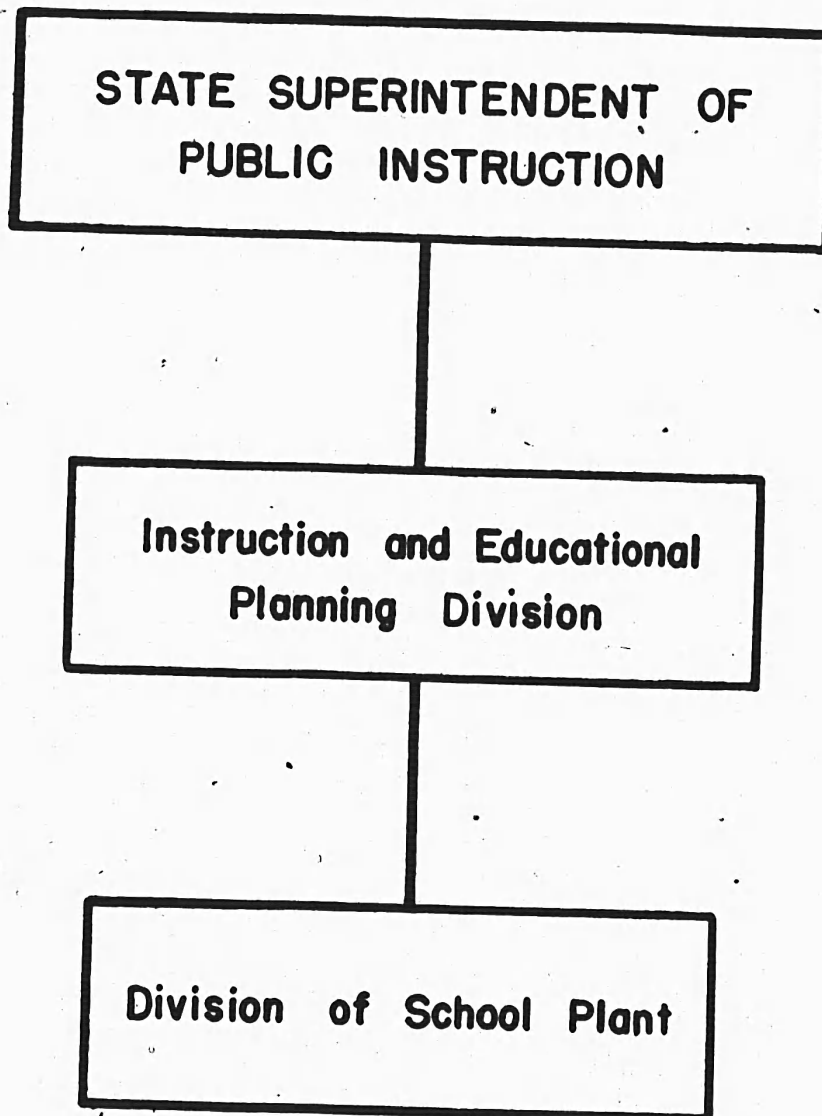


Chart 8.—MICHIGAN.

**STATE BOARD OF EDUCATION  
(STATE BOARD FOR VOCATIONAL EDUCATION)**

**STATE COMMISSIONER OF EDUCATION**

**DEPUTY COMMISSIONER**

**Division of Buildings and  
Business Administration**

**Chart 9.—MINNESOTA.**



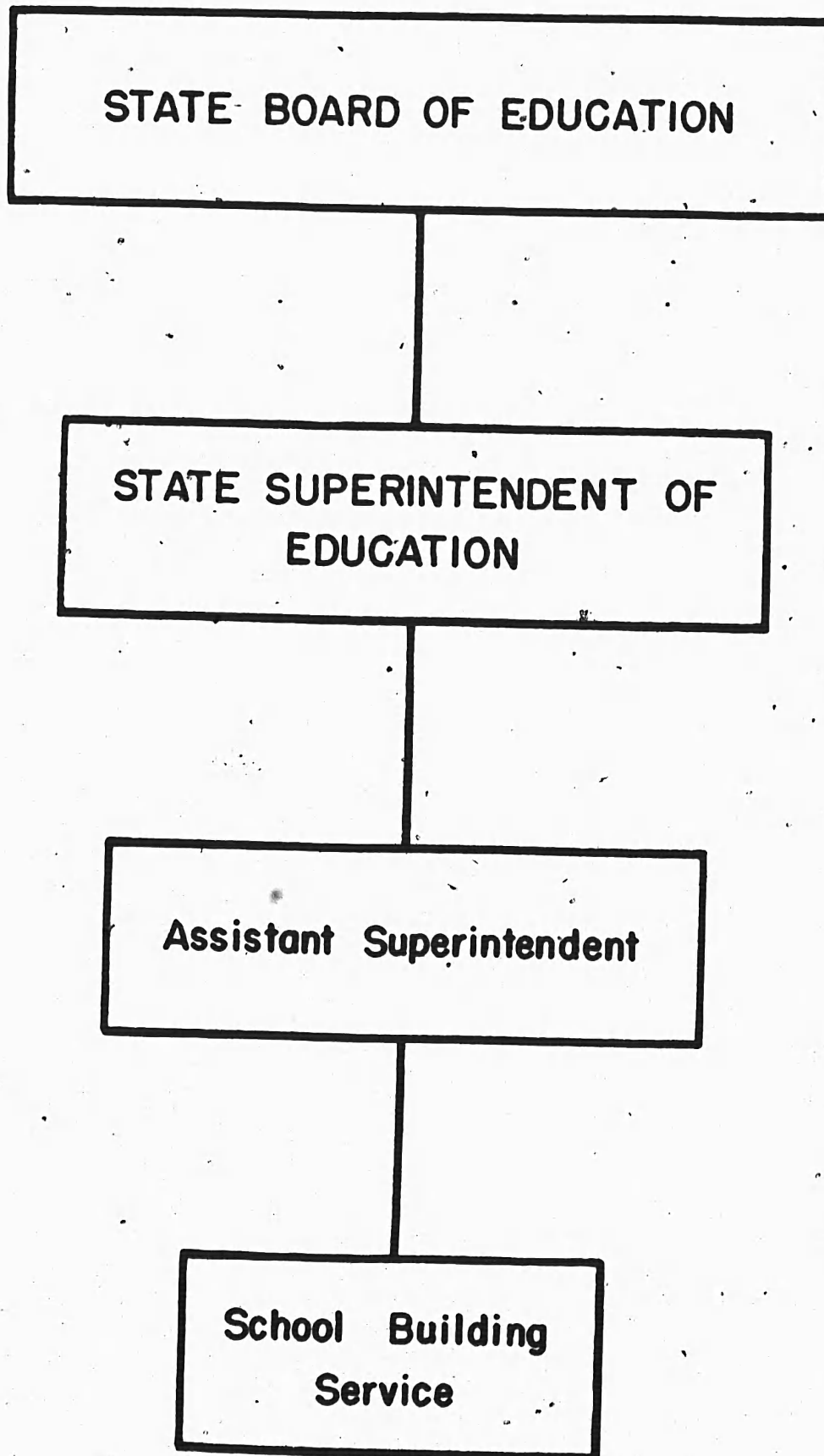


Chart 10.—MISSISSIPPI.

STATE BOARD OF EDUCATION  
(STATE BOARD FOR VOCATIONAL EDUCATION)

STATE SUPERINTENDENT OF  
PUBLIC SCHOOLS

ASSISTANT SUPERINTENDENT  
AND CHIEF CLERK

ADMINISTRATIVE  
SERVICE

School Building  
Service

Chart 11.—MISSOURI.



**STATE BOARD OF EDUCATION  
(STATE BOARD FOR VOCATIONAL EDUCATION)**

**STATE COMMISSIONER OF EDUCATION**

**Division of  
Business Affairs**

**Inspector of  
School Buildings**

**Chart 12.—NEW JERSEY.**

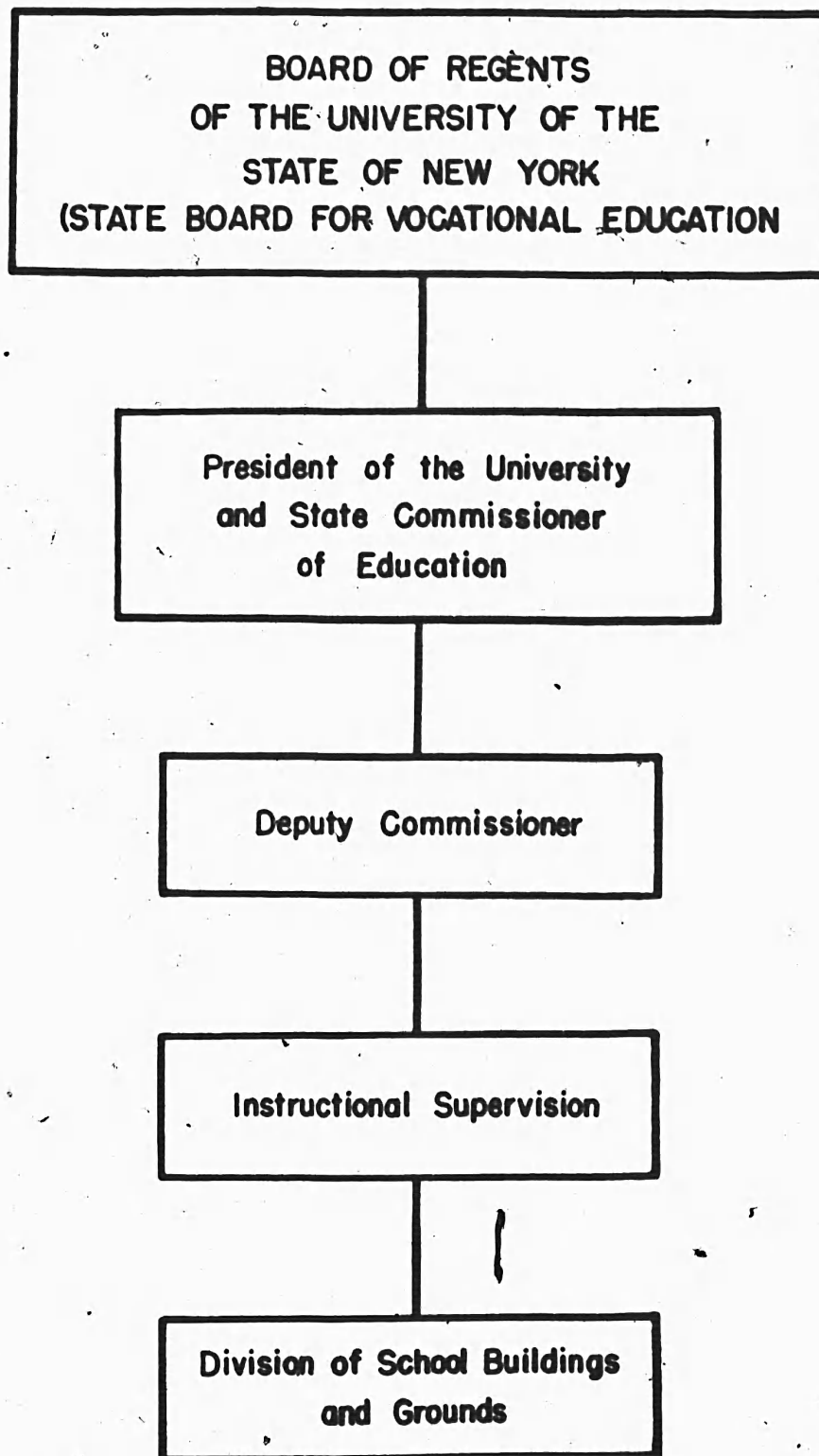


Chart 13.—NEW YORK.



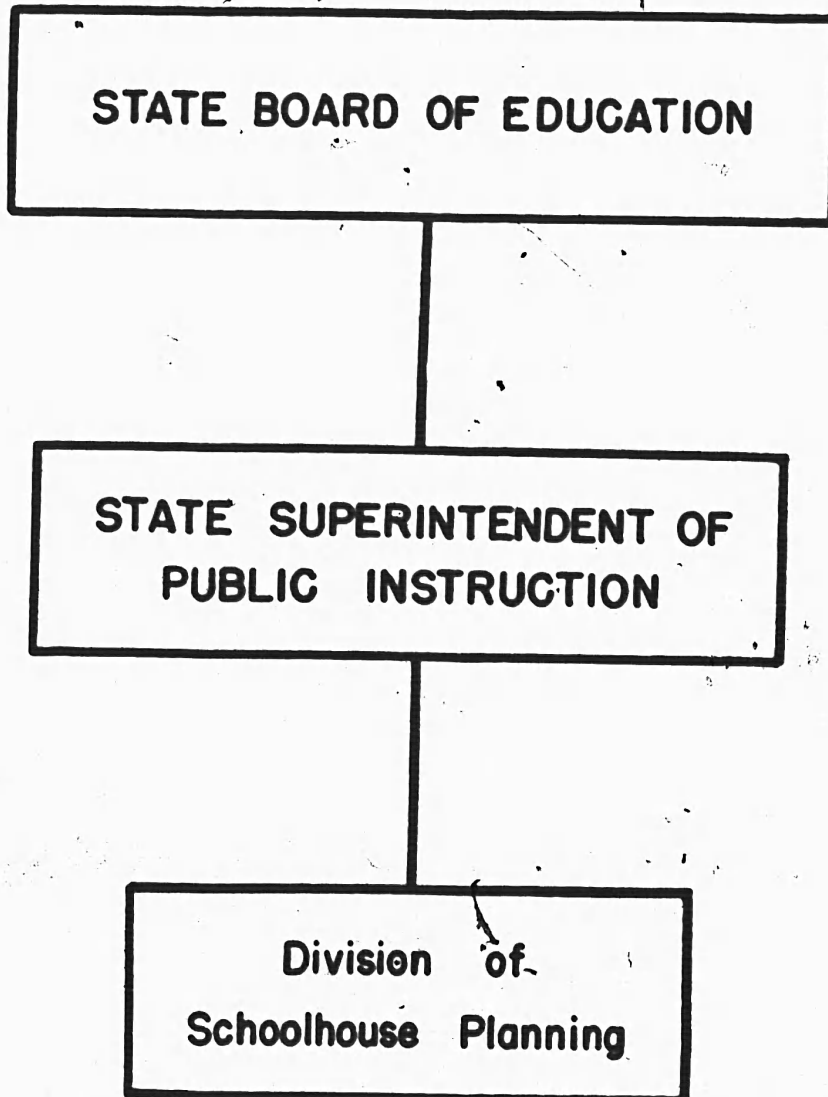


Chart 14.—NORTH CAROLINA.

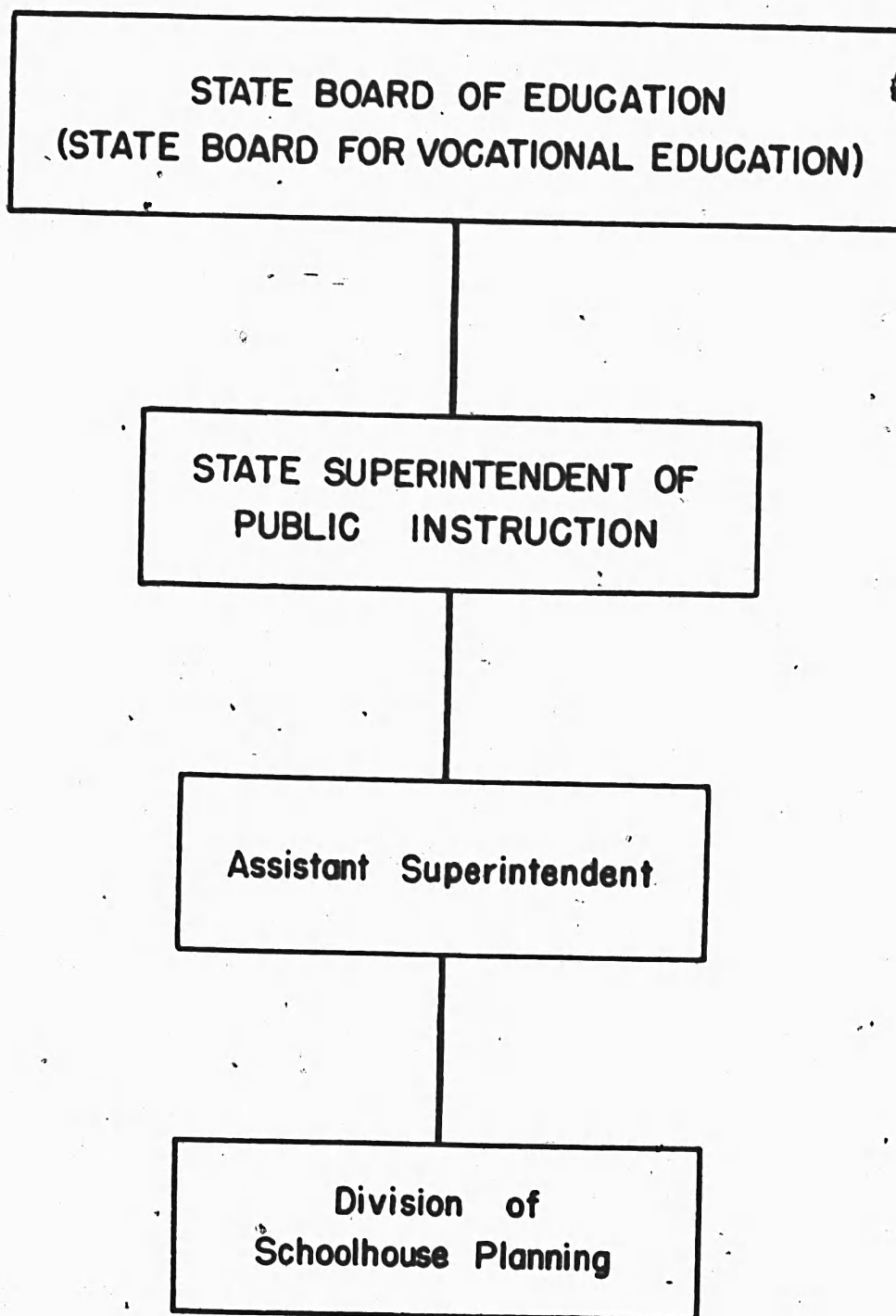


Chart 15.—OKLAHOMA.



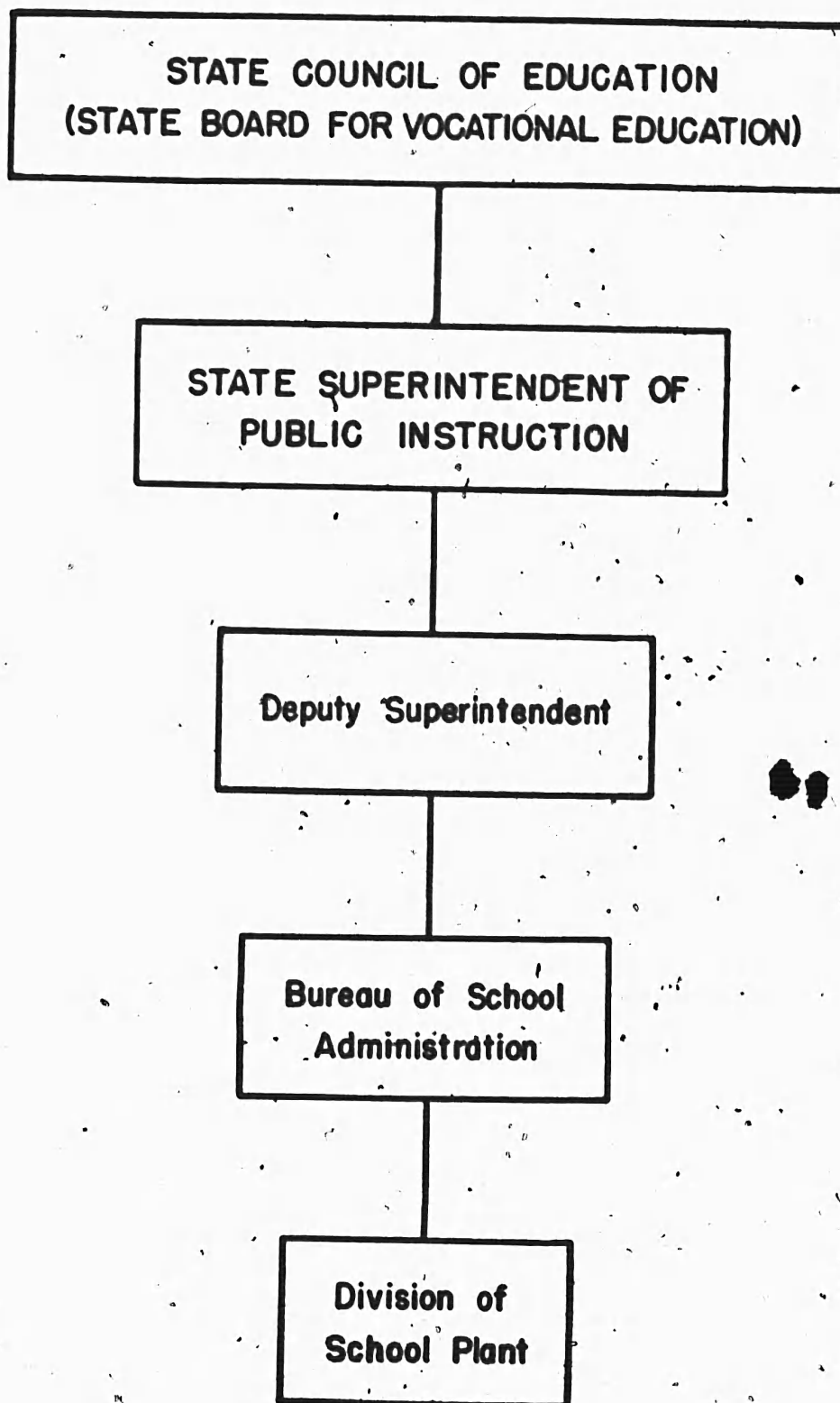


Chart 16.—PENNSYLVANIA.

STATE BOARD OF EDUCATION  
(STATE BOARD OF VOCATIONAL TRAINING)

STATE SUPERINTENDENT OF  
EDUCATION

Division of  
Schoolhouse Planning

Chart 17.—SOUTH CAROLINA.



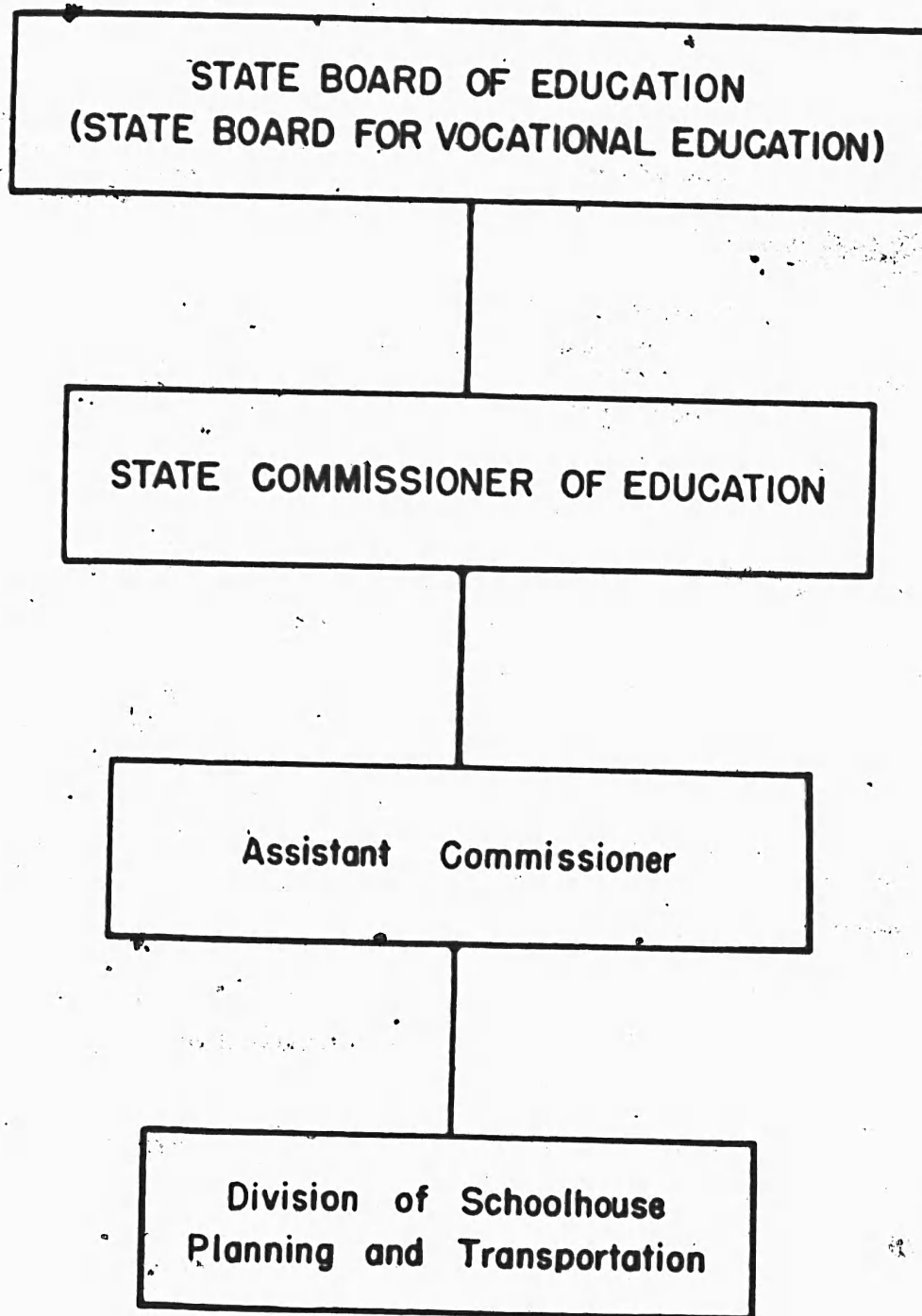


Chart 18.—TENNESSEE.

**STATE BOARD OF EDUCATION  
(STATE BOARD FOR VOCATIONAL EDUCATION)**

**STATE SUPERINTENDENT OF  
PUBLIC INSTRUCTION**

**Division of School Plant**

**Chart 19.—TEXAS.**



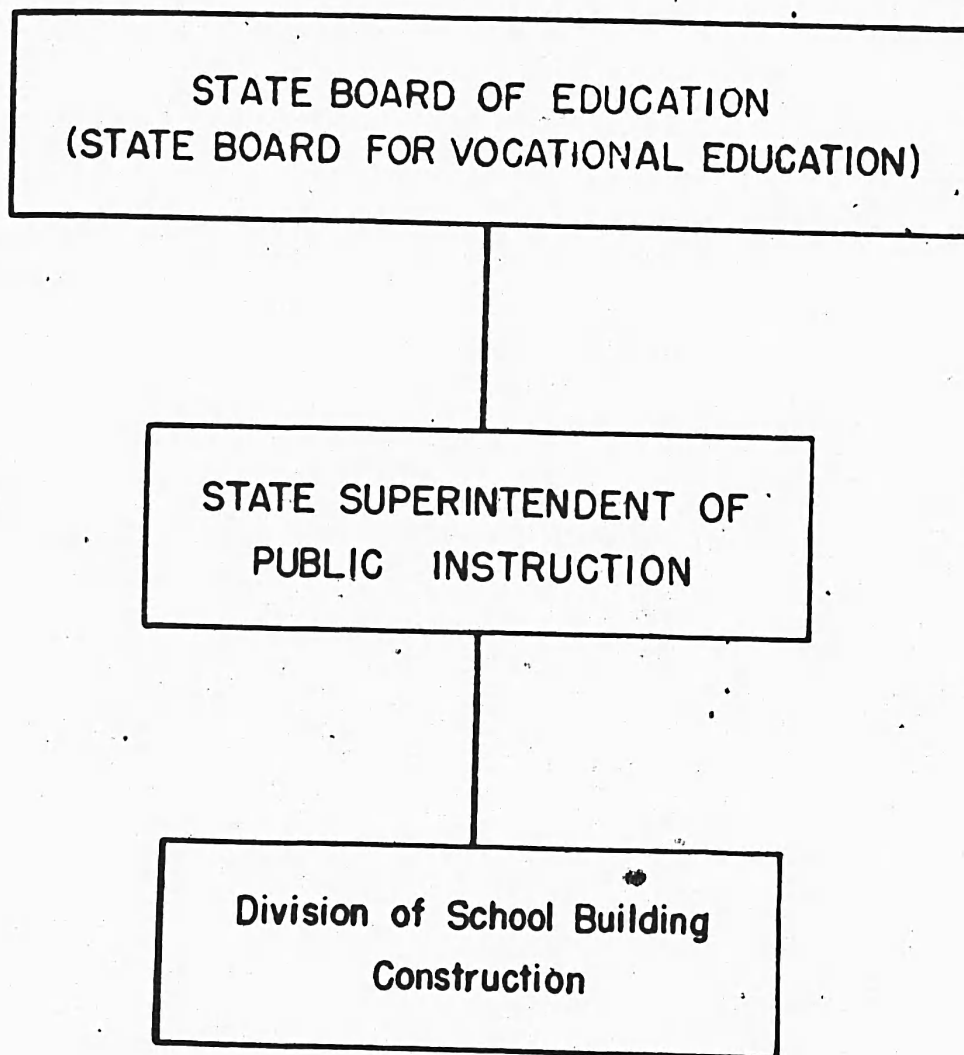


Chart 20.—VIRGINIA.

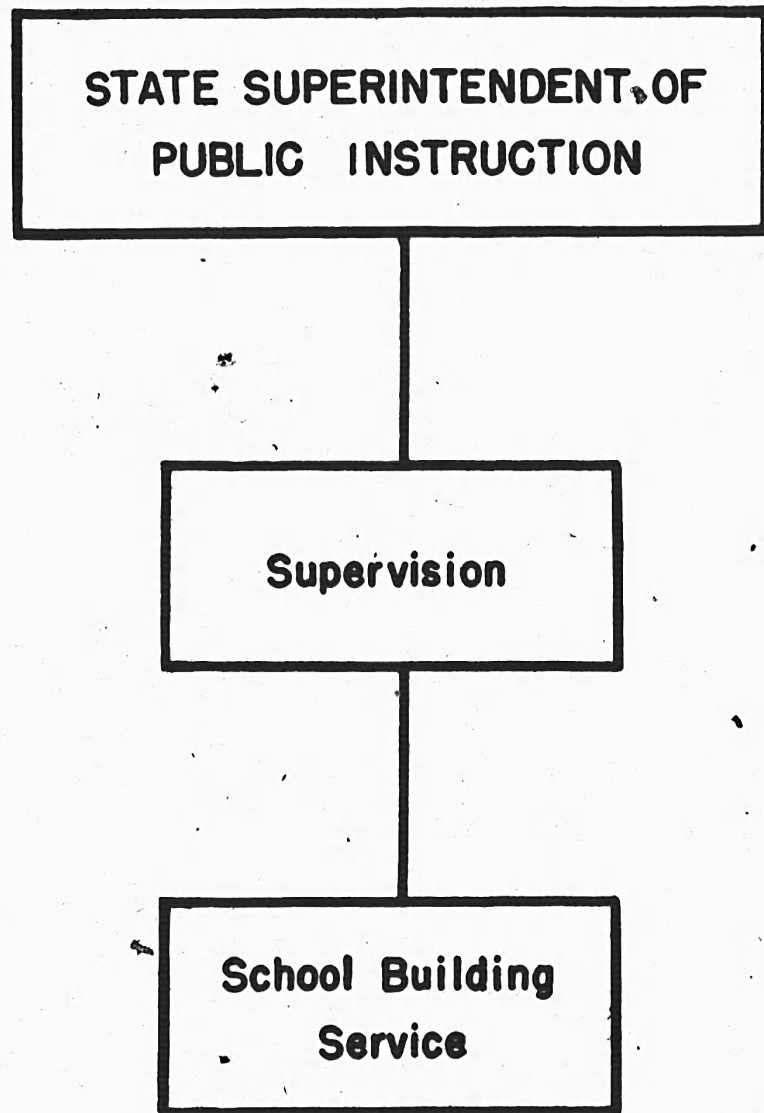


Chart 21.—WISCONSIN.



## Appendix B

### School Building Surveys Published by State Departments of Education <sup>1</sup>

**ALABAMA.** State department of education. Report of the survey of Chilton County schools. Montgomery, 1939-1940. Research and survey series No. 66. 113 p. (Mimeo.)

• **MISSISSIPPI.** State department of education in cooperation with the Civil Works Administration. A survey of the plant facilities of the public schools of Mississippi. Jackson, 1934. 26 p. (Mimeo.)

**NORTH CAROLINA.** State department of public instruction in cooperation with the U. S. Office of Education, Washington, D. C. Study of school units in North Carolina. Raleigh, 1937. 191 p. Printed.

**SOUTH CAROLINA.** State department of education. The State school building survey of South Carolina. Columbia, 1937. 182 p. (Mimeo.)

**VIRGINIA.** State department of education. Report of school building survey and recommendations for a long-range building program for white and negro schools of Clarke County. Richmond, 1940. 26 p. (Mimeo.)

<sup>1</sup> No doubt other States have published school building surveys but the above were the only ones submitted with reports on school building work.

## Appendix C

### Bibliography of Printed Standards on School Buildings Published by State Departments of Education

- ALABAMA.** State department of education. Handbook on the school building program for school superintendents and boards of education. Montgomery, Bulletin 1936, No. 7. 47 p.
- CALIFORNIA.** State department of public works. Rules and regulations relating to the safety of design and construction of public school buildings in California. Sacramento, February 8, 1937. 30 p.
- DELAWARE.** State department of public instruction. Minimum standards for school buildings and sites. Dover, 1931. 31 p.
- FLORIDA.** State department of education. The school plant. Tallahassee. Chap. IX, p. 202-221.
- GEORGIA.** State department of education. General specifications and directions and detail specifications—general. Atlanta. (Mimeo.)
- IDAHO.** State board of education. School House Plans—One-, two-, and three-room buildings. Boise, June 1927. Idaho bulletin of education, Vol. XIII, No. 4. 31 p.
- ILLINOIS.** State department of public instruction. Suggestive standards for school building construction. Springfield. (Mimeo.) 17 p.
- KENTUCKY.** State department of education. Regulations governing the sanitary and protective construction of public school buildings. Frankfort, March 1935. Educational bulletin Vol. III, No. 1, 20 p.
- MAINE.** State department of education. Laws and rulings of commissioner of education and minimum requirements for approval of buildings. Augusta, 1936. 11 p.
- MICHIGAN.** State board of education. Michigan school building law. Act 306 P. A. 1937. Lansing. (Mimeo.)
- MINNESOTA.** State department of education. Laws and rules governing school buildings and sites. St. Paul, June 1928. 46 p.
- MISSOURI.** State department of education. Schoolhouse planning and construction. Jefferson City, 1933. School Building Series, Bulletin No. 2. 116 p.
- NEW YORK.** University of the State of New York. School buildings, sites, and school district bonds. Albany, September 1, 1931. University of the State of New York bulletin, No. 979. 61 p.
- NORTH DAKOTA.** State department of public instruction. Explanation of requirements for standardization of rural schools. Bismarck. 4 p.
- OREGON.** State department of education. A manual on the construction and care of school buildings. Salem, 1937. 119 p.
- PENNSYLVANIA.** State department of public instruction. The school plant. Harrisburg, 1939. 51 p.
- VERMONT.** State department of education. Official rating sheet for Vermont graded schools. Montpelier, revised February 1936.
- VIRGINIA.** State Board of Education. Regulations of the State board of education. Richmond, January 1937. Bulletin State board of education. Vol. XIX, No. 4. 30 p.
- WASHINGTON.** State department of education. Representative school buildings. Olympia, 1933. 107 p.
- WEST VIRGINIA.** State department of education. Standards for school building construction. Charleston. (Mimeo.)



Table 1.—State departments that make school building surveys<sup>1</sup>

State	State makes surveys								Surveys kept up-to-date		Remarks
	Yes	No	On own initiative		At request of local community		On 5 to 10-year basis		Yes	No	
			Yes	No	Yes	No	Yes	No			
1	2	3	4	5	6	7	8	9	10	11	12
Total	31	12	18	15	24	9	17	4	4	21	
Alabama	x		x			x	x		x		Surveys made by survey section of division of administration and finance. Expect to do some work in this field next year.
Arizona											
Arkansas	x			x	x					x	
California	x			x	x			x		x	
Colorado											No responsibility for school buildings.
Connecticut	x			x	x		x			x	
Delaware	x		x							x	
Florida	x			x	x		x			x	
Georgia	x			x	x					x	By report forms. State department makes local survey, not State or county. Survey made 4 years ago as part of State survey.
Idaho	x		x			x				x	
Illinois		x									
Indiana		x		x							
Kansas		x									Consultative service rather than surveys. Limited survey on request. Helps on some surveys but believes local authorities should make surveys except in case of consolidations. Makes State-wide surveys on own initiative.
Kentucky	x		x		x		x			x	
Louisiana		x		x							
Maine	x		x		x		x			x	
Massachusetts	x				x						Makes State surveys with aid of University of Missouri. No State direction on school buildings. State makes surveys on request if it has time. Surveys kept up to date in part. State superintendent has authority to make surveys. Through cooperation of local districts.
Michigan		x		x		x					
Minnesota	x		x		x			x		x	
Mississippi	x		x		x						
Missouri	x				x		x			x	No State direction on school buildings. State makes surveys on request if it has time. Surveys kept up to date in part. State superintendent has authority to make surveys. Through cooperation of local districts.
Montana		x				x					
Nebraska		x				x					
Nevada		x				x					
New Hampshire		x									State makes surveys on request if it has time. Surveys kept up to date in part. State superintendent has authority to make surveys. Through cooperation of local districts.
New Jersey	x		x		x		x				
New Mexico	x		x			x					
New York	x			x	x			x		x	
North Carolina	x		x		x				x		Through cooperation of local districts. Survey was local school unit study. Has one WPA survey pending.
North Dakota		x									
Ohio	x		x				x			x	
Oklahoma	x			x	x		x			x	
Oregon	x		x		x			x		x	Has one WPA survey pending.
Pennsylvania	x		x		x		x			x	
Rhode Island	x		x		x		x		x	x	

See footnotes at end of table.

Table 1.—State departments that make school building surveys<sup>1</sup>—Continued

State	State makes surveys								Surveys kept up-to-date		Remarks
	Yes	No.	On own initiative		At request of local community		On 5 to 10-year basis		Yes	No	
			Yes	No	Yes	No	Yes	No			
1	2	3	4	5	6	7	8	9	10	11	12
South Carolina	x			x	x		x			x	Surveys kept up-to-date through school building inventory. State makes surveys through State planning commission. Survey made in 1934-35.
South Dakota		x		x		x		x		x	
Tennessee	x			x	x		x			x	
Texas	x			x	x		x			x	
Utah		x									
Vermont	x		x			x	x			x	
Virginia	x		x		x		x		x		
Washington	x		x		x		x		x		
West Virginia	x		x			x				x	
Wisconsin	x			x	x		x		x		

<sup>1</sup> No information received from Iowa, Maryland, and Wyoming.

<sup>2</sup> Once.

<sup>3</sup> Not generally.

<sup>4</sup> About half the time.

<sup>5</sup> No definite period.

<sup>6</sup> At discretion of local unit.

<sup>7</sup> Seldom.

<sup>8</sup> As occasion demands.

<sup>9</sup> If possible.

<sup>10</sup> Not necessarily.

<sup>11</sup> Some.



Table II.—State departments that require records of condition of school plant<sup>1</sup>

State department requires reports on condition of school plant from city, county, and district superintendents					
State	Each year		Sample forms submitted		Remarks
	Yes	No	Yes	No	
1	2	3	4	5	6
Total	13	27	4	5	
Alabama	X				Asks status of school plant annually in county examiner's report.
Arkansas		X			
California		X			No responsibility for school buildings.
Colorado		X			
Connecticut		X			
Delaware	X				Requires reports from county and district superintendents, not for cities.
Florida	X		X		
Georgia	X				If a special problem is found by State supervisor, report is made.
Idaho		X			
Illinois		X			
Indiana		X			Made high-spot survey twice in 10 years, 1930, 1935. 1940 survey is planned.
Kansas		X			
Kentucky		X			
Louisiana	X			X	
Maine		X			
Massachusetts		X			"Each year school committee . . . should with superintendent of schools carefully investigate physical condition of school property. Written memorandum of results of investigation should be on file in superintendent's office (Massachusetts Public School Administration). The only record that is compulsory is a report of summary of expenditures on school plant."
Michigan		X			
Minnesota	X		X		They plan a brief inquiry to be completed voluntarily by some but not all schools.
Mississippi		X		X	
Missouri		X			Working on plan to secure data regularly.
Montana		X			
Nevada		X			Principals report annually to State department on value of school property; deputy superintendents also make reports (Biennial Survey 1936-38, p. 10).
New Jersey		X		X	
New Mexico	X				Score cards sent each 5 years to city and county superintendents.
New York	X				
North Carolina	X				Not required by law.
North Dakota	X				
Ohio	X				Included in general school reports.
Oklahoma		X			
Oregon		X			Forms sent out in 1939
Rhode Island		X			
South Carolina		X			Not required by law but reports received annually.
Tennessee		X		X	
Texas	X		X		General information is usually on file in division of school plant service.
Utah		X			
Vermont		X			
Virginia	X		X		
Washington		X			
West Virginia		X			
Wisconsin		X		X	

<sup>1</sup> No information received from Arizona, Iowa, Maryland, Nebraska, New Hampshire, Pennsylvania, South Dakota, and Wyoming.

## APPENDIX

Table III.—States in which plans and specifications are prepared by private architects and by State departments<sup>1</sup>

State	State department prepares plans and specifications for—												Plans prepared by private architects		State Department							
	School buildings		School grounds		Schools of the following room sizes:							Prepares stock plans			Designs and distributes room layouts		Prepares plot plans and maps		Gives direc- tions for treat- ment of soil			
	Yes	No	Yes	No	1	1 to 2	1 to 4	1 to 6	1 to 9	1 to 12	13 or more	Yes	No	Yes	No	Yes	No	Yes	No			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Total	18	27	13	29	14	12	12	9	9	8	8	27		18	21	21	10	12	27	9	27	
Alabama	X		X		X	X	X	X	X	X	X	X		X		X		X		X		
Arkansas	X				X	X	X	X	X	X	X	X		X		X		X		X		
California	X		X		X	X	X	X	X	X	X	X		X		X		X		X		
Connecticut		X		X								X		X		X		X		X		
Delaware		X		X								X		X		X		X		X		
Florida					X	X	X	X	X	X	X	X		X		X		X		X		
Georgia	X		X		X	X	X	X	X	X	X	X		X		X		X		X		
Idaho		X		X								X		X		X		X		X		
Illinois		X		X								X		X		X		X		X		
Indiana		X		X								X		X		X		X		X		
Kansas		X		X								X		X		X		X		X		
Kentucky		X		X								X		X		X		X		X		
Louisiana		X		X								X		X		X		X		X		
Maine		X		X								X		X		X		X		X		
Maryland		X		X								X		X		X		X		X		
Massachusetts		X		X								X		X		X		X		X		
Michigan		X		X								X		X		X		X		X		
Minnesota	X		X		X	X	X	X	X	X	X	X		X		X		X		X		
Mississippi	X		X		X	X	X	X	X	X	X	X		X		X		X		X		
Missouri																						
Montana		X		X										X		X		X		X		
Nebraska		X		X										X		X		X		X		
Nevada		X		X										X		X		X		X		
New Hampshire		X		X										X		X		X		X		
New Jersey		X		X										X		X		X		X		
New Mexico		X		X										X		X		X		X		
New York		X		X										X		X		X		X		



1 No information received from Arizona, Colorado, and Iowa.  
2 Law requires that an architect be employed for school buildings where the value is \$7,500 or more, and in rural areas.  
3 1 to 3 rooms.  
4 5 rooms.  
5 Do as little as possible in making plans and specifications.  
6 Only.  
7 Chiefly small schools.  
8 Vocational division only.  
9 No, except special surveys.

• Law requires that an architect be employed for school buildings where the value is \$7,500 or more, and in rural areas.

**Do as little as possible in making plans and specifications.**

• No, except special surveys

1

1

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11: Shop, home economics, and libraries.  
11: Compulsory.

11 Small schools.

<sup>10</sup> For all buildings

2

10

Table IV.—State departments that review plans for school buildings<sup>1</sup>

State	State department reviews plans and specifications		Local community submits plans and specifications		Methods to make local community submit plans and specifications
	Yes	No	Yes	No	
1	2	3	4	5	6
<b>Total</b>	<b>39</b>	<b>6</b>	<b>37</b>	<b>3</b>	
Alabama	X		X		Required by law. Approval of budget.
Arkansas	X		X		Educating communities.
California	X		X		Contract illegal unless plans approved.
Colorado		X			
Connecticut	X		X		Required by law.
Delaware	X		X		Community willing to accept approval because State pays annual maturities on bonded debt.
Florida	X		X		Required by law.
Georgia	X		X		By request of State department which is successful.
Idaho	X		X		Required by law. Some not submitted but nothing done about it.
Illinois		X		X	
Indiana		X		X	
Kansas		X			
Kentucky	X		X		Required by law. Can withhold funds if buildings are not satisfactory.
Louisiana	X		X		Legal provision that plans reviewed and approved. State superintendent must approve.
Maine	X		X		Withhold State funds.
Maryland	X		X		Required by law.
Massachusetts	X		X		
Michigan	X		X		No power to compel. One-fourth or less do.
Minnesota	X		X		Required by law.
Mississippi	X		X		Through support of accrediting association and voluntary submission. Estimates 95 percent of plans sent in.
Missouri	X		X		No compulsion. Local communities desire State department service.
Montana		X		X	
Nebraska		X			
Nevada	X				
New Hampshire	X				
New Jersey	X		X		Required by law.
New Mexico	X		X		Do.
New York	X		X		Required by law for buildings costing \$500 or over, except for places exceeding 50,000 population.
North Carolina	X		X		Required by law.
North Dakota	X		X		Do.
Ohio	X		X		State department handles money. Practically all do submit.
Oklahoma	X		X		Majority submit plans because State school building director built up friendly relationships with communities and architects.
Oregon	X		X		Not mandatory.
Pennsylvania	X		X		Required by law except in Philadelphia and Pittsburgh.
Rhode Island	X		X		Required by law.
South Carolina	X		X		Do.
South Dakota	X		X		Do.
Tennessee	X		X		No legal procedures.
Texas	X		X		Persuasion.
Utah	X		X		Required by law.
Vermont	X		X		Voluntary.
Virginia	X		X		Required by law.
Washington	X		X		Voluntary only.
West Virginia	X		X		Required by law.
Wisconsin	X		X		Voluntary action only. Majority submit plans.

<sup>1</sup> No information received from Arizona, Iowa, and Wyoming.<sup>2</sup> State department has no responsibility for school buildings.<sup>3</sup> Plans must be submitted to State architect but not to State department.<sup>4</sup> Employs private architect on fee basis to review plans.<sup>5</sup> Only on request.<sup>6</sup> Seldom.<sup>7</sup> Usually.<sup>8</sup> State department of health reviews plans.<sup>9</sup> No State department direction for school buildings.<sup>10</sup> Limited service.<sup>11</sup> On request for PWA and WPA buildings.<sup>12</sup> PWA buildings and others on request.<sup>13</sup> Voluntarily.<sup>14</sup> Frequently.



Table V.—State departments that approve plans for school buildings

State	State department approves plans and specifications		Approval must be in writing		Approval binding on local community		Methods used to compel local communities to abide by approval or disapproval of State department
	Yes	No	Yes	No	Yes	No	
1	2	3	4	5	6	7	8
<b>Total</b>	<b>37</b>	<b>8</b>	<b>29</b>	<b>6</b>	<b>26</b>	<b>10</b>	
Alabama	X		X		X		Final inspection before final payments are made to contractor.
Arkansas	X			X		X	Persuasion.
California	X		X		X		Contract control.
Colorado		X					
Connecticut	X		X		X		Required by law.
Delaware	X		X		X		Community willing to accept approval because State pays annual maturities on bonded debt.
Florida	X		X		X		Required by law.
Georgia	X		X		X		Compulsion not necessary.
Idaho	X		X		X		No adequate means of enforcement.
Illinois		X					
Indiana		X					
Kansas		X					
Kentucky	X		X		X		Required by law.
Louisiana			X				Do.
Maine	X		X		X		Withhold State funds.
Maryland	X				X		Required by law.
Massachusetts		X					Matter of local responsibility.
Michigan	X		X		X		None.
Minnesota	X		X		X		Approval required by law.
Mississippi	X		X		X		Majority abide by State department decision.
Missouri	X		X		X		Inspection during construction and final State approval results in voluntary compliance. Also State aid is a factor in many districts.
Montana		X					
Nebraska		X					
Nevada	X						No law requiring approval.
New Hampshire	X					X	Can withhold funds for buildings legally.
New Jersey	X		X		X		Control through State school building fund, 1938.
New Mexico	X		X		X		By withholding grant of 25 percent cost of building for centralized school district.
New York	X		X		X		Through bond issues and refusal to approve them. Also State board of health could close a building if necessary.
North Carolina	X		X		X		Required by law.
North Dakota	X		X		X		Withhold funds or enforce through PWA requirements.
Ohio	X		X		X		None but friendly relationships.
Oklahoma	X		X			X	Required by law.
Oregon		X					Do.
Pennsylvania	X		X		X		Do.
Rhode Island	X		X		X		Do.
South Carolina	X		X		X		None except through accreditation of schools.
South Dakota	X		X		X		Persuasion.
Tennessee	X		X			X	Required by law.
Texas	X		X			X	Voluntary for schools not standardized.
Utah	X		X		X		Board may withhold certain State funds and refuse loans from literary loan fund.
Vermont	X			X	X		None used.
Virginia	X		X		X		Required by law.
Washington	X			X		X	Majority abide by approval or disapproval of State department.
West Virginia	X		X				
Wisconsin	X		X		X		

1 No information from Arizona, Iowa, and Wyoming.

2 State department has no responsibility for school buildings.

3 Employs private architect on fee basis to approve plans.

4 County superintendent, local school board, and contractor are liable if approval is not secured from State board of health.

5 No State department direction for school buildings.

6 Limited service.

7 On request.

8 PWA.

9 Only on voluntary basis. Schools of third class must have plans approved by county superintendents.

10 For standardized schools.

Table VI.—State departments that supervise construction of school buildings <sup>1</sup>

State	State department—					
	Supervises construction of school buildings		Supervises at request of local community		Has authority to supervise without request	
	Yes	No	Yes	No	Yes	No
1	2	3	4	5	6	7
<b>Total</b>	<b>14</b>	<b>29</b>	<b>12</b>	<b>18</b>	<b>10</b>	<b>24</b>
Alabama	X		X		X	
Arkansas	X		X			X
California	X		X		X	
Connecticut	X			X	X	
Delaware		X				
Florida	X		X		X	
Georgia	X		X		X	
Idaho		X			X	
Illinois		X				X
Indiana		X				
Kansas		X				
Kentucky		X		X		X
Louisiana	X		X			X
Maine		X		X		X
Massachusetts		X				
Michigan		X				X
Minnesota		X		X		X
Mississippi		X		X		X
Missouri	X		X			X
Montana		X		X		X
Nebraska		X		X		
Nevada		X				
New Hampshire		X				
New Jersey	X		X		X	
New Mexico		X				X
New York		X		X		X
North Carolina		X				X
North Dakota	X		X		X	
Ohio		X				X
Oklahoma		X		X		X
Oregon		X		X		X
Pennsylvania		X		X	X	
Rhode Island		X				
South Carolina		X		X		X
South Dakota		X				
Tennessee		X				X
Texas		X				X
Utah		X		X		X
Vermont	X		X			X
Virginia	X		X		X	
Washington	X			X		
West Virginia		X		X		X
Wisconsin	X		X			X

<sup>1</sup> No information from Arizona, Colorado, Iowa, Maryland, and Wyoming.<sup>2</sup> Limited<sup>3</sup> Sometimes<sup>4</sup> Not obligatory.<sup>5</sup> Only where State funds are used.



Table VII.—State departments that inspect school buildings, and means used to enforce authority to inspect<sup>1</sup>

State		State department						Means used to enforce authority to inspect
		Inspects school buildings		Inspects at request of local community		Has authority to inspect without request		
		Yes	No	Yes	No	Yes	No	
1	2	3	4	5	6	7		
Total		33	10	22	12	23	10	
Alabama		X		X		X		Final inspection before payments are made to contractor.
Arkansas		X		X			X	Persuasion.
California		X		X			X	No authority. Request only.
Connecticut		X				X		Authority given by law.
Delaware		X			X	X		
Florida		X		X		X		Legal authority to enforce sanitary and fire hazard provisions.
Georgia		X			X	X		State accreditation.
Idaho			X		X			
Illinois			X					
Indiana			X				X	
Kansas			X		X			
Kentucky		X		X		X		No authority.
Louisiana		X			X	X		None needed.
Maine		X				X		Withhold accreditation; withhold State funds.
Massachusetts			X					
Michigan		X		X		X		None.
Minnesota			X			X		Authority never questioned.
Mississippi		X		X			X	No compulsion.
Missouri		X				X		None.
Montana			X		X		X	
Nebraska			X		X		X	
Nevada			X		X		X	
New Hampshire		X						
New Jersey		X		X		X		Legal authority.
New Mexico		X		X		X		No evidence given.
New York		X		X			X	
North Carolina				X		X		Legal authority.
North Dakota		X			X	X		Final approval necessary.
Ohio		X		X		X		Moral suasion and authority over funds.
Oklahoma		X		X		X		Reserves rights for buildings for which it prepares plans.
Oregon		X			X	X		On visits make it a point to inspect.
Pennsylvania		X		X		X		
Rhode Island		X			X	X		
South Carolina		X		X		X		Condemnation legal.
South Dakota		X				X		None necessary.
Tennessee		X		X		X		
Texas		X		X			X	Not necessary to enforce.
Utah			X					
Vermont	10	X		X		X		Legal authority only for standardized schools.
Virginia		X			X	X		Legal authority.
Washington		X		X			X	No authority.
West Virginia		X		X		X		
Wisconsin		X		X		X		Legal or through orders of State department.
								Final inspection mandatory.

<sup>1</sup> No information from Arizona.<sup>2</sup> In State board unit. Special districts and Wilmington are not included.<sup>3</sup> In State board units.<sup>4</sup> Except as necessary for State aid to special kinds of instruction.<sup>5</sup> Authorized by law to promote plans for small school buildings and to inspect.<sup>6</sup> Inspects for school buildings being suitable.<sup>7</sup> Annually.<sup>8</sup> In connection with supervisory visits.<sup>9</sup> In connection with accreditation.<sup>10</sup> With reference to State aid and standardized schools.<sup>11</sup> For standardized schools only.

**Table VIII.—State departments that have authority to condemn school buildings; means used to enforce that authority; other State agencies that have authority to condemn school buildings<sup>1</sup>**

State	State department has authority to condemn school buildings		Means used to enforce authority	Local community has authority to condemn school buildings		Other State agencies that have authority to condemn school buildings
	Yes	No		Yes	No	
1	2	3	4	5	6	7
<b>Total</b>	<b>13</b>	<b>30</b>		<b>19</b>	<b>13</b>	
Alabama	x		None necessary			State fire marshal. Health department authorized by law.
Arkansas		x			x	
California		x		x		Division of architecture.
Connecticut		x	None	x		State department of health; State fire marshal.
Delaware		x		x		
Florida	x		Law	x		State department of health for sanitary and fire hazards.
Georgia	x		Notify in writing	x		
Idaho	x		No adequate means			
Illinois		x				
Indiana		x				
Kansas		x				State architect authorized by law to examine plans to see if they meet legal requirements as to safety and fire hazards.
Kentucky		x			x	Bureau of fire prevention and rates.
Louisiana		x		x		State fire marshal.
Maine		x				
Massachusetts		x		x		
Michigan		x			x	State fire marshal.
Minnesota	x		Law authorizes	x		State industrial commission of State board of health; State fire marshal.
Mississippi		x			x	
Missouri		x			x	
Montana	x				x	State board of health, State fire marshal.
Nebraska		x			x	
Nevada		x		x		
New Hampshire		x				State board of health.
New Jersey	x		Legal right		x	
New Mexico		x			x	Do.
New York		x			x	
North Carolina		x			x	State insurance commissioner; State fire marshal; State board of health.
North Dakota		x			x	State board of health has legal power.
Ohio		x			x	Department of public health, bureau of workshops and factories.
Oklahoma		x		x		Sanitary engineer and fire marshal.
Oregon		x		x		State fire marshal, State board of health, State labor commissioner on request.
Pennsylvania	x					State art commission.
Rhode Island		x		x		State architectural building inspectors.
South Carolina	x		Legal power			State sinking fund commission.
South Dakota	x					
Tennessee		x		x		Department of health, fire, safety, both State and local; fire marshal.
Texas		x	None	x		
Utah	x		Can close school buildings.	x		Public service commission inspect for safety.
Vermont		x		x		State department of health.
Virginia	x			x		Commissioner of labor.
Washington		x		x		State department of health.
West Virginia		x		x		State fire marshal.
Wisconsin	x		Can withdraw all State and county money.			Industrial commission.

<sup>1</sup> No information from Arizona, Colorado, Iowa, Maryland, and Wyoming.

<sup>2</sup> No legal provision.

<sup>3</sup> For health reasons.

<sup>4</sup> Authority to declare buildings below standard.

<sup>5</sup> Recommends.

<sup>6</sup> When necessary, but not done.

<sup>7</sup> County superintendent.