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A STUDY OF RECOMMENDED SCHOOL PLANT PLANNING PROCEDURES TOGETHER
WITH AN EVALUATION OF THE EXTENT TO WHICH THEY ARE BEING
UTILIZED IN SELECTED UTAH SCHOOL DISTRICTS

by
Spencer Wyatt

A thesis submitted in partial fulfillment
of the requirements for the degree

of
MASTER OF SCIENCE
in
Education

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Spencer Wyatt

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CHAPTER I

INTRODUCTION

One of the great problems facing the public schools of America today is that of providing adequate school facilities. The immediate need for new buildings is overwhelming. Contributing factors to the need for expanded school plant facilities can be classified, both as a result of a backlog of school building needs over a period of several decades, and because of greatly increased enrollments. A publication of the United States Office of Education summarized a discussion of these factors as follows:

The public schools entered the 1950 decade with a backlog of need for more than 250,000 classrooms and faced anticipated enrollment increases of nearly 7 million pupils during the decade." (28, p. 16)

The cost of needed new school plant facilities has been estimated, by one study group, at \$14 billion for the decade ending 1960 (11, p. 11). An estimate published in the New York Times (January 16, 1952) called for \$20 billion by 1958. (4, p. 501-footnote) The most usual estimates range from \$11 billion to \$14 billion. In 1950 Dr. Ray L. Hamon, Chief, School Housing Section, U. S. Office of Education, wrote:

In 1948, 31 states reported to the U. S. Office of Education their public elementary and secondary school building needs for a six year period. Those estimates when projected on a population basis for the nation amounted to more than \$9 billion . . . Recently revised forecasts indicate that enrollment will be considerably higher than those on which the above estimates were based. The writer believes therefore that his current estimate of \$13.5 billion for public elementary and secondary school plant needs for the next decade is not excessive. Unless building costs come down materially, it is more likely that this estimate is too conservative. (16, p. 58)

A letter written by John H. Bosshart states:

This new construction is essential in order to take care of the increase in enrollments, to provide new buildings where schools are being consolidated, to house children now attending school in churches and vacant stores, and to replace buildings that have become obsolete and unsafe. (12, p. VI)

In Utah, as elsewhere, the task of providing adequate school housing for increased enrollments is expensive and complicated. A publication of the Utah State Department of Public Instruction lists some interesting facts concerning enrollments. For the school year of 1936-37 there were a total of 139,500 students in all grades from one through twelve. For the 1952-53 school year this figure grew to 164,490 and the predicted enrollment for 1960-61 is set at 230,807. This indicates an increase from 1952-53 to 1960-61 of 66,317 students, or a 40.3% increase over an eight year span. This increase is reflected throughout all the grades. (27, p. 6)

This same publication interprets the influence of this increase in enrollments on school building needs as follows:

The estimated increase in the school enrollments point out the need for additional future school buildings. Or in other words, 2,395 additional teachers need 2,395 additional classrooms together with necessary auxiliary facilities and equipment. A high percentage of the population growth is found in the school districts that have already been confronted with building problems. This means that hard pressed school districts and higher institutions will face even greater problems in the future. (27, p. 9)

In 1948 an extensive study was made by the State Department of Public Instruction to determine future school housing needs in the state of Utah and in each of the districts. It was determined then that by the 1956-57 school year, the cost of needed additional facilities, remodeling, and modernization and replacement of obsolete and unsafe buildings

would exceed \$81 million. It is interesting to note also that every district in the state had need for better and/or increased school facilities. (16, p. 44)

Implications for Study

If school administrators and boards of education are to spend wisely the vast sums of money previously indicated, effective and thorough planning must precede each expenditure. School plants designed at the present time must meet the needs of education for many years to come. One writer emphasizes the importance of planning as follows:

Besides the universally accepted fact that the quality of teaching and learning is enhanced by adequate physical resources, there are two other facts that make it mandatory to devote one's best efforts to sound plant planning. First, the investment in schoolhouses, grounds and equipment, . . . is a substantial capital investment of public money . . . Secondly, the fact that schoolhouses are of relatively permanent nature necessitates good planning so that they will not become obsolete or unsafe before the end of their normal useful life expectancy. Schools, as a rule, should be expected to serve for fifty to sixty years. If badly planned, they become educational liabilities instead of being assets. (14, p. 501)

Because of the importance of planning and because all the districts of the state of Utah have expressed a need for building, a study of the procedures and methods of planning used by various districts of the state should be a worthwhile endeavor. From a study of practices now used, recommendations for better procedures could be made. The study should indicate ways in which local districts could plan more effectively for better school plants and facilities.

Statement of Problem

This study is concerned with determining how selected school districts have planned to provide the school plant facilities to house the

educational program in that district. Practices and procedures used in the selected districts will be investigated and compared with recommended planning programs as authorities have advocated in the literature.

Delimitations

There are many factors that must be considered in developing a long-range school plant planning program. After careful study of the many factors given consideration in the literature, four major areas were chosen. This study is limited to a consideration of (a) school board policies basic to school plant planning, (b) individuals and groups utilized and the roles they have taken, (c) some devices and technics used to study needs and develop plans, and (d) programs of financing school plant needs.

This study has not been concerned with planning, designing or constructing any one particular school building. The writer is aware that in the smaller district it may be difficult to distinguish plant planning from district planning for school plants. However, the emphasis has been placed on continuous long-range planning throughout each district studied, to maintain and provide adequate school housing.

Definitions

School Plant, as used in this study, refers to the land, buildings, equipment and other physical facilities provided for the educational purposes of the district.

Master Plan, as used in this study, refers to a complete, comprehensive and long-range plan made by a school district to systematically meet the anticipated needs of a school district over a period of years. The very nature of this definition of a master plan infers continuous appraisal.

School Plant Planning, as used in this study, refers to the development of plans to provide the necessary school plant facilities to house the educational program desired throughout the district. School plant planning follows educational planning and is an integral part of the total planning program for the district.

Method of Procedure

The literature discussed in this study was reviewed to point out the need for long-range school plant planning and to identify the salient features of recommended planning procedures. In surveying the literature, the four factors given major consideration in this study were found to be of great importance. It was found that the educational program to be provided for must be clearly defined. Basic policies must be adopted before long-range planning can proceed. The groups and individuals expected to assist in the development of a planning program and the contributions each were expected to make were described. Some devices and technics, maps, charts, graphs, population projection studies and curriculum studies were suggested as having definite value in long range master planning. It was established that a definite financial schedule or program should also be developed if the master plan was to be considered complete.

After a recommended program was presented from a survey of the literature, an interview questionnaire was developed to be used as a guide for a personal interview with the superintendent of each of the selected districts. The interviews were scheduled with each superintendent in his district office.

The interview questionnaire requested information in each of the four areas to which the study was limited. In the first area, school

board policies basic to school plant planning, inquiry was made concerning eight factors. In the literature there were many more than these eight factors mentioned as worthy of consideration, but the study considered only those areas mentioned by all the authorities cited. The superintendents were requested to describe district policy concerned with (1) the range of the educational program, (2) grade grouping, (3) enrollment per classroom, (4) community recreation and adult education programs, (5) enrollment per site- elementary, junior high school, and senior high schools, (6) school plant surveys - frequency and by whom, (7) transportation distances, and (8) the provision of facilities for exceptional children.

The second area the study was concerned with was the determination of individuals and groups utilized in the district plant planning program and the nature of the participation of each group or individual. The literature surveyed recommended the participation of many groups or individuals and described the particular contributions each could best make. The questionnaire requested information concerning the nature of the participation of seven groups or individuals. They were (1) the school board, (2) the superintendent and his administrative staff, (3) principals and teachers, (4) community planning commissions, (5) community lay citizen groups, (6) architect, and (7) state school office staff. Other groups were mentioned in the literature but these seven groups were considered to be particularly worthy of consideration and able to contribute to a district school plant planning program.

Some devices and technics used to study needs and develop plans comprised the third area studied. The purpose of giving emphasis to this area was to request the superintendent to present visible evidence

that systematic long-range planning was carried on in the district. The superintendents were asked to show the various maps, charts and graphs that had been developed in studying the needs and developing plans for the district. Information was requested concerning methods of making enrollment projections and population studies. Reports submitted by curriculum study groups made in the district were also requested. Inquiry was made concerning a written statement of philosophy for the district.

The fourth area considered by the study was that of the development of a financial program to provide the facilities planned. The recommended school plant planning program, as described in the literature cited, could not be considered complete unless financial planning was included. In the interview the superintendent was asked to describe the manner in which the district expected to finance the school housing program.

Seven districts were chosen from the forty districts in Utah for the purposes of this study. The criteria considered in choosing the sample districts were (1) amount of school building need reported in a study made in 1948, (27, p. 44) (2) the number of pupils in average daily attendance during the 1950-51 school year, (6, p. 169) (3) school population trend, increasing, decreasing or unchanging, (26, p. 235) (4) urban, rural or both urban and rural districts, (5) per capita assessed valuation based on 1950 census report (6, p. 142).

The selection of districts included those of greatest, average and least need; those of large, average and small size, as well as those with increasing, decreasing and stable enrollments. Urban districts, rural

districts and districts having both urban and rural schools were represented. The sample selected also included districts of most wealth, average wealth and least wealth per child.

From the information obtained through the personal interview with the superintendent of each of the seven selected districts, a description of the planning procedures was written. The procedures found in the various districts were compared with recommended practices identified in the survey of the literature. On the basis of these comparisons, conclusions were drawn and recommendations made.

CHAPTER II

REVIEW OF RELATED LITERATURE

Literature pertaining to school building planning is abundant in periodicals. Several of the most prominent educational journals devote sections and occasionally entire issues to school housing problems. Many of these have been concerned with school plant planning. Books published for school administrators frequently devote chapters to school plant planning. In recent years several books have been written by educational authorities treating problems in school building planning and construction. A yearbook (American School and University) devoted to school housing and equipment problems, has been published yearly since 1926. Research studies closely related to this study are usually in the form of school building surveys. Planning procedures are found more frequently in published surveys, or studies of surveys. Current periodicals contain descriptions of planning programs as they have been conducted in various districts.

From this wealth of literature on school plants, a selection of information has been made that will (a) identify the factors studied in school building surveys; and (b) point out the importance of school plant planning programs.

School Building Surveys

One method of comprehensively studying the needs of school systems is the school building survey. The first general survey to devote a section specifically to school buildings was made in Boise, Idaho in 1910. The first survey devoted entirely to school plant study and planning was made in Harrisburg, Pennsylvania. It can be seen then

that the school building survey as a useful planning technic is of fairly recent origin.

The school building survey soon became recognized as being of great value. In 1933, 212 surveys made over the country were either school building studies or gave a part of their content to the consideration of school buildings (18, p. 90).

In 1932 a review of ninety-two studies dealing with school building survey were reported under the following classifications: (a) character of the community; (b) school population; (c) appraisal of the school plant; (d) the plan of organizational and educational aspects; (3) the ultimate school plants; and (f) the program of finance. These topics suggest the general scope of the building surveys (5, p. 418).

Caswell, after an investigation of seventy surveys made previous to 1929, which dealt with school buildings recommended the following outline of the problems that should be given consideration in school plant surveys.

1. Present school plant
 - (a) Analysis of each building--sites, buildings, service systems, classrooms, special rooms.
 - (b) Building utilization
 - (c) Renovation program
2. Educational program in relation to buildings
 - (a) Type of school organization
 - (b) Curriculum offerings
 - (c) Persistence of pupils in schools
3. Future building needs
 - (a) Population trends -- growth in school enrollment, growth in city population, birth by areas for years
 - (b) Residential development -- residential saturation, location of new homes, where children live, population centers, industrial areas.

4. A building program with definite steps of development for elementary schools, junior high schools, senior high schools
5. Financing the building program
 - (a) Financial requirements of the program
 - (b) Ability of the community to support the program
 - (c) Procedure to be followed in financing the program (8, p. 108)

A summary description of school building surveys conducted by the Bureau of Educational Research of Ohio State University, up to 1930, stated:

The surveys include a study of the character of the community, school organization, school population, status of present plant, school building needs, and the financial condition of the district. Among the items mentioned under these main divisions are the estimated future enrollment, used as a basis for arriving at school building needs, the utilization of the present plant indicating to what extent the buildings are overcrowded; the residence location of the pupils of each grade; an analysis of the assessed valuation and bonded indebtedness of the district as compared with that of districts of about the same size to determine the ability to finance a program; and recommendations on the location, size and cost of buildings. (5, p. 418)

About two decades later, in 1948, another investigator summarized his analysis of many school plant surveys as follows:

The problem of school building needs is paramount today. Thousands of studies of need are being made, ranging from statewide surveys to individual studies of small rural districts. Practically everyone of these studies involves predicting enrollments, predicting the distribution of children within the areas studied, evaluating the existing plant, relating the school plant to the educational program and organization, and estimating the ability of the district to finance capital expenditures. (30, p. 13)

The studies cited thus far have been made to identify the basic elements commonly found in adequate school building surveys. An analysis of these factors show that surveys have been concerned with: (a) characteristics of the school community; (b) a study of present and future school enrollments; (c) an appraisal of the existing school plants;

(d) the educational program and organization to be provided for; and
(e) programs of finance. Since these factors have proved worthy of study and consideration in so many surveys over a period of several decades, it would appear to be imperative to consider them basic to planning wherever a building program is being developed. The importance of a survey of these factors has been emphasized by an authority in the school building field recently when he wrote:

School building surveys have long since proved their worth. They have become as essential a part of superior school administration as a comprehensive financial budget, a teacher's salary schedule, or a professionally prepared curriculum. It is true that the investment in a single school building cannot rate high unless its location, size, and nature have been based upon a school building survey. The trend in state law and regulatory provisions is to make certain that plant expenditures are allotted only after a comprehensive regional plan has been made.
(13, p. 60)

Early in the history of the survey method of studying school buildings, the surveys were conducted by an educational consultant. Usually it was someone from the state office or from a state university, who had previous experience in school plant evaluations, who made the survey for the district. The final report with recommendations was presented to the board of education. Occasionally, some privately practicing expert has been called in to make the survey. In more recent years many surveys have been made by the superintendent of a district by using his staff and frequently calling in lay citizens to assist him. One educational consultant has observed that: "The day has passed when one person or a small group is permitted to dictate school building developments. School planning is now a cooperative professional process."
(13, p. 61)

The current literature contains many descriptive articles of surveys and planning programs. A majority of those studied have utilized many different groups, both professional and lay in nature.

A report of one such planning program contained the following paragraph:

The Louisville board of education believes in using all available resources in planning a school building or building program. It weighs the recommendations of the superintendent and his administrative staff very carefully, and makes certain that incorporated in these recommendations are research studies of present and future needs, population trends, and city expansion, suggestions of teachers who will use the buildings, proposals of community leaders for its use as a community center and requests of the City Recreation Department for its after-school use. It employs tested architects and uses technical experts as consultants. (21, p. 41)

Mr. M. R. Sumption, Head, Field Service Division, University of Illinois, has developed a self-survey guide based on procedures developed in a series of citizen-teacher-student surveys conducted in Illinois towns. In each of these surveys the actual work of collecting data was done by a local committee of school board members, school administrators, teachers, pupils and lay persons interested in public education. The purpose of these self-surveys was to develop sound long-range school building programs based on the educational need of the communities. The proposed guide in outline form is as follows:

- I Purpose of the survey
- II Organization of the Survey Workers
 - A. Secure the consultative services of one or two professionally trained educators experienced in school surveys.
 - B. Select a central survey committee.
 1. This committee should consist of between 11 and 15 people drawn from the following sources:
 - (a) The board of education - 1 or 2
 - (b) Teachers in the system - 4 or 5
 - (c) Students from upper grades - 1 or 2

- (d) Laymen of the community - 5 or 6
- (e) The Superintendent of Schools (exofficio)
- 2. Bases of selection
- C. Organization of the Central Survey Committee
 - (a) Subcommittees
 - (b) Chairman
 - (c) Secretary

III Areas to be Explored

- A. The community and its people
 - 1. Historical background including recent developments
 - 2. Economic analysis of the community
 - 3. Inventory of basic social services
 - 4. Transportation facilities
 - 5. Description of the population
 - 6. Changes in population
 - 7. Direction of population growth
 - 8. Location of minor population
 - 9. School enrollments
- B. The educational program the people want
 - 1. The philosophy of the schools
 - 2. The depth of the desired educational program
 - 3. The breadth of the desired educational program
 - 4. Provisions for education of exceptional children
 - 5. Provisions for pupil services
- C. The financial ability of the school district
 - 1. The assessed valuation of the district
 - 2. The present indebtedness of the district
 - 3. The source of school income
 - 4. Expenditure patterns and trends
 - 5. Effort to support schools
 - 6. Maximum bonding potential
- D. The present school housing situation
 - 1. Present buildings
 - 2. Present sites
 - 3. Evaluation of buildings and sites
 - 4. Utilization of buildings
 - 5. Possibilities for remodeling buildings
 - 6. Possible sites for new buildings

IV Analysis of the Fact Collected

- A. How many students will need housing in the next 10 to 20 years?
- B. Where will the students be located?
- C. What are the implications of the proposed educational program for the building types needed?
- D. What are the implications of the financial situation for a long range building program?
- E. In what respects is the present school plant adequate and suitable for the proposed educational program and estimated enrollments?
- F. In what respects is it inadequate and unsuitable?

V Application of accepted criteria of good school housing

- A. Accepted criteria for good housing facilities
1. Site requirements
 2. Space requirements per pupil
 3. Minimum and maximum size of efficient attendance units
 4. Maximum travel distances for pupils
 5. Grade organizations
 6. Special services to be housed
 7. General design of buildings

VI The recommended school building program

- A. This is the master plan which plots the course of school plant construction of a period of years. It should contain recommendations relative to:
1. The nature and extent of the educational program to be housed
 2. Location and size of new building sites
 3. Location of new buildings
 4. Type of new buildings to be constructed
 5. Areas of the educational program to be housed in each building
 6. Approximate size of each building
 7. Remodeling and additions to existing buildings
 8. Elimination of old buildings
 9. Priorities to be assigned to each unit of construction
 10. Estimated cost of building program
 11. A plan of action to effect the program

VII Keeping the people informed

- A. The people of the community should be kept informed from the beginning of the survey until all the facts are obtained. Recommendations should be reserved for the final report.
- B. Media of publicity
- C. A good public relations program works two ways
- D. The complete survey report, including conclusions and recommendations, should be submitted to the board of education. The board may then publish it, or a digest of it, for general distribution.
(25, pp. 39-40)

School building surveys have contributed greatly to the development of sound school plant planning practices. Through surveys, factors worthy of consideration and careful study have been identified, and translated into school building needs. The use of survey techniques

has shown that there is merit in utilizing both professional and lay personnel in studying the problems involved in a school building survey.

School Plant Planning Programs

The formulation of a comprehensive plan for years in advance has become known as the development of a master plan. The need and justification for a master plan is emphasized in the literature surveyed in this section.

Dr. Charles W. Bursch, Chief, Division of Schoolhouse Planning, State of California, Department of Education, who has held this position since 1929, traces the development of the master plan concept in the following paragraph:

In the rapid expansion programs of the 1920's the school district that planned ahead of its current building program was the exception rather than the rule: this was also true during the 1930's but to a less extent. During World War II when population figures grew with amazing rapidity and construction was almost stopped most school buildings were filled to the bursting point. Not being able to do anything but cope with the situation as best they could on a temporary basis and look ahead to the time when they would again be permitted to build, many districts realized for the first time where their unplanned programs of the past had led them. They found themselves with an educational plant which had grown piecemeal for years, finally reaching a point where their plant was functionally unsuitable and represented varying degrees of wasted capital outlay resources. Many of these districts had the vision to see where similarly unplanned future building programs would lead them. This had much to do with the establishment of the long range plan as an instrument of building policy. Long range planning became even more firmly established by a growing scientific attitude toward all matters of school house planning and construction.
(7, p. 43)

In 1949 the American Association of School Administrators twenty seventh year book was published under the title of American School Buildings. The book was prepared by a committee of nationally recognized authorities in the school housing field. It was intended to be

helpful to school administrators over the nation who were planning and constructing school buildings. It is significant that the first subtitle in the book is: Developing a Master Plan is First Responsibility.

Under this title is the following:

It should be obvious that a survey to determine a 'blueprint' or master plan of the ultimate school plant is necessary before a large amount of money is spent for rehabilitating an old building, for providing an addition, or for erecting a new building. It is the responsibility of the school board and its superintendent to know whether or not such expenditures fit into a well planned pattern. In too many American cities and counties, school buildings have been erected without reference to the future development of the total school plant, with the result that money has been wasted not only in construction but also in the annual operating costs. (1, p. 10)

Thus, the importance of developing a master plan is recognized as an important administrative function for every district. Districts should not proceed with building programs and commit large sums of money until such a master plan has been developed. This point of view can be substantiated by many references found in current periodicals and other publications.

The National Council on Schoolhouse Construction stressed the importance of long-range planning as follows:

Even though prediction is admittedly precarious, failure to take the long-range view, to plan for future plant needs in the light of the best and most exhaustive information presently available, is both educationally and financially undefensible. (20, p. 7)

In his textbook for school administrators, Hagan wrote:

For every school and school system, a long-range plan of plant development, expansion or improvement is necessary ... The advantages of the system-wide, long-term building program seem to be common to all systems regardless of size or organization. (15, p. 300)

Since it is so generally accepted that long-range master planning is essential for efficient school plant administration, it becomes

necessary to identify some of the basic elements incorporated in a functional master plan. The master plan should be based on the same information obtained in a school building survey. Studies of community characteristics, educational policy and objectives, existing school plant facilities, and present and future school populations would need to be interpreted in terms of school plant needs. The master plan would then be a complete and long range plan made by a school district to meet the anticipated needs of a school district over a period of years.

Bursch describes the master plan as consisting of four major parts. The first major part is the recognition and evaluation of the school district housing needs. The second part is the educational policy developed by the district in providing educational opportunities. The third part he chooses to call the architectural master plan. This is the part which furnishes a scheme for housing the needs and requirements voiced in the preceding two parts. The fourth part is a long range financial plan to provide the funds for the building programs as they are needed. (7, p. 45)

The 1949 yearbook of the American Association of School Administrators recognizes that there are many complex factors to be considered in developing a master plan. The authors choose to group them into two fundamental classes. The first one that must be met by the board of education is the definition of the scope and the quality of the communities educational program. After this has been determined then the second problem is that of deciding on the location of school buildings. They add, however, that before this can be done studies of the community characteristics, predicted school enrollments, zoning ordinances and possibly other factors must be made. (1, p. 12)

CHAPTER III

SOME RECOMMENDED PLANNING PROCEDURES

Recommended procedures to follow in developing a long range master plan for a school district have been identified through a survey of the literature and presented in this chapter. Literature related to the four areas of this study has been cited to describe: (1) School board policies basic to school plant planning; (2) individuals and groups utilized in school plant planning and the roles they have taken; (3) some devices and technics used to study needs and develop plans; and (4) program of financing school plant needs.

School Board Policies Basic to School Plant Planning

The first basic problem that must be met is the definition of the scope and quality of the educational program to be provided for. Perkins and Cocking (22, p. 19) states:

The first important study, to determine schoolhousing needs, should determine the educational purposes or objectives of the school system in its particular community and the overall policies which govern the school in its operation. Such objectives and policies should be specific - applying directly to the community in question . . . The school plant in reality is a piece of educational equipment, and its form and use are dependent upon the objectives it should help to achieve and the policies which will guide the program.

Before long range planning can proceed basic policies must be established. The nature of effective policies will vary from district to district, depending upon the characteristics and needs of the school community served. Generally, it will be important that definite policies be formulated with reference to:

1. Type of organization (8-4, K-6-3-3, etc.)
2. Minimum and maximum size of each type school
3. Maximum distance to be traveled by the pupils

4. School transportation
5. Provisions for handicapped children
6. Special courses
7. Community use
8. Lunch programs
9. Health services (10, p. 39)

The yearbook, *American School Buildings*, (1) lists a series of questions to illustrate the problems for which a tentative answer must be reached before the specific planning of school buildings can proceed.

The list is quite comprehensive. It is as follows:

1. What is the optimum type of grade organization?
2. What shall be the upper and lower ages or grade levels in the school system?
3. What shall be the content of the school curriculum?
4. How far may children reasonably be expected to walk?
5. What shall be the limits of class size to determine the number of teachers to be employed and the number of classrooms needed?
6. What levels of quantity and quality shall be maintained in the school buildings and equipment?
7. What supervisory services shall be provided to teachers and pupils?
8. On what basis shall children be grouped for instruction?
9. What shall be the purposes and nature of the testing program?
10. What shall be the length of the school day and of the school term?
11. What regulations shall govern summer programs?
12. What special services shall be provided children in the schools?
13. What additional activities shall the schools sponsor?
14. What is the school's responsibility in community recreation?
15. For what community library service is the school responsible?
16. What co-curriculum experiences shall be provided in the schools?
17. What use of school property shall be afforded community groups?
18. What services for adult education shall be provided?
(1, p. 43)

The yearbook explains that there is no one right answer to these problems. The answer will be found in terms of the conditions that exist in each district. It is further stated that the answers must come from

the community; the answers must represent the cooperative thinking of the community. This point of view is expressed by many writers.

(7, 13, 15)

Individuals and Groups Utilized and the Roles They have Taken

Current literature devoted to school plant planning contains numerous articles describing cooperative participation of all school staff people and community groups. One writer makes the following statement:

Community participation in planning for schools is not merely something to be desired, but something that must be achieved if the schools are to practice the democracy they hope to teach. (19, p. 7)

Another writer states:

The determination of facilities and space requirements for a building program or an individual building project should be the task of all those who use the plant. The composite judgments resulting from studies by committees of supervisors, teachers, custodians, lay groups, and pupils should be channeled to the administrator responsible for the direction of the plant program. (20, p. 4)

The value of cooperative planning is being recognized in many ways.

Some advantages of such an approach have been summarized as follows:

Members of the school staff who work in the classroom are more likely to know how rooms can be laid out to function more effectively and how they may become better educational workshops than is either the school official or architect. Also, the public has an opportunity to assist in planning the community wing for adult use which is found in many modern schools. Suggestions made by the teaching staff and the public may be guided by consultants, school officials and the architect so that functional departments can be designed. An important by-product of this wider participation in school building planning is the increased pride and interest manifest by the public and staff. Inasmuch as they have an opportunity to participate in the planning, the building becomes theirs, rather than the building of the educational specialists. (10, p. 8)

It is widely accepted by administrators and professional educators that a cooperative planning program has merit over a program planned by

administrators and architects alone. Individuals and groups mentioned in the literature as being participants in a planning program are: The school board, superintendent and staff, principals and teachers, community planning commissions, community lay citizen groups, architect, state school office staff, custodians, and students. Literature describing the contributions of each of these participating individuals or groups follows.

The board of education is legally responsible for the conduct of the building program through their control of decisions involving contracts, financing, and approvals necessary at various stages. In such matters the board can function only as a corporate body. Therefore, its function in planning the school plant is the same as it is in all school administration: the formulation of policy and the careful selection of an executive and staff who are capable of assisting the board in formulating policies and also of executing the decisions agreed upon. (1, p. 21) The board of education may ask for and accept recommendations from many sources, but the board must accept final responsibility for any action taken. (22, p. 16)

The individual members of the board have the responsibility of studying and acquainting themselves with good planning procedures and problems and needs of the district. From this information and recommendations of other groups the policy decisions and actions may proceed. (7, p. 10)

The A.A.S.A. Yearbook (1, p. 22) summarizes its section describing the role of the schoolboard as follows:

In brief, the board of education is the basic policy-making body for planning buildings, with specific legal requirements; but more than that, the board of education has implied responsibility for seeing that building planning results in marked educational improvement and progress in the community.

The superintendent and his staff play the key role in school plant planning. He is the chief executive officer of all building planning, surveys and procedures. The duties of the superintendent are clearly pointed out in the following quotation taken from the A.A.S.A. Yearbook:

There is no task which the superintendent performs in which he is more challenged to demonstrate all that he knows, hopes for, and believes about education than in planning the home of education. Among his duties are:

1. To conduct and direct research that will determine the relationship of new or altered buildings to a forward-looking educational program and to interpret research to the board of education, the staff, and the community.
2. To guide, with reliable facts, the policy formation of the board in its many basic decisions in school-plant planning.
3. To establish and maintain, for each building project, a chronological schedule and record of all decisions, transactions and steps taken from its inception by the board of education to the dedication of the building.
4. To secure cooperative planning of the principals, teachers, and community in developing the total building program and in the immediate planning of a school project.
5. To convey to architects and other specialists a clearly stated program of the educational services to be implemented by the building.
6. To consult with the architect and other specialists on interpretations of the agreed-upon program and on the educational evaluation of proposed solutions to the problems presented.
7. To assist the board of education in a fair presentation of the building program to the community and in developing a financial plan for servicing the building program.
8. To develop plans for the maximum use and preservation of the building by the staff and the community.
9. To translate all planning into a creative and constructive program of education when the building is completed. (1, p. 23)

Bursch has described the nature of the superintendent's responsibilities as follows:

As superintendent he has more to do than any other person with the entire planning procedure from start to finish. By and large he is most active in the formative stages of the planning procedure. He is likely to find himself acting as a sparkplug to get things going and keep them moving. He maintains contact with, and acts as a general liaison officer between all of the many individuals and groups involved. He is frequently the one who first gives expression to a building need or if expressed by others, sees that this expression is guided and cultivated until something gets done. He must offer guidance and encouragement to teachers, principals, and supervisors in forming a statement of their building needs and problems. He is completely responsible for organizing a comprehensive statement of school plant needs for his entire district, and for the formulation of a master plan based on these needs. Even though in many cases he may engage outside professional help by educational consultants and by architects in preparing it, he is the driving and guiding force behind it. (7, p. 9)

The superintendent, then, is responsible for the organization of the master plan and in developing a continuous program of school plant management. He is the central and key figure in school plant planning just as he is in all aspects of good school administration. This view is supported by many other authorities in the field. (14, 5, 30, 25, 22).

The participation of principals and teachers in planning school buildings is becoming recognized as being very important. If the teachers and principals are utilized in planning, they can interpret the needs of the educational program. Because they are in direct contact with the school plant and the pupil, they are in a better position to interpret the needs of the students. Also because they are able to speak in behalf of their own professional interests, the school plant when built may serve them as an efficiently functioning instrument for their work.

One writer expresses the value of teacher participation as follows:

The teacher is the one who figures most in the operation of the school plant; the effectiveness with which she makes use of it determines its success or failure. It is necessary that she understand completely the use of her classroom unit as an instrument of education and that she be helped to use it to the utmost, with vigor and imagination. This can best be accomplished when the teacher has participated in the planning. (1, p. 8)

Many district planning programs have found that principals and teachers can contribute definitely to a planning program. Teachers can make significant contributions in planning model classrooms, traffic movements, improved activities, core-curriculum facilities, and relationships of parts of the buildings. (1, p. 31)

Another very significant activity that must consider the opinions of the principals and teachers is in development of the educational program. The purpose of a school building planning program is to provide buildings that will better house an educational program. Perhaps the greatest contribution the staff members can make is to project the educational program to a statement of building and classroom needs. (7, 13, 21, 24)

Holy (18) made a study in 1935 identifying some important relationships between school building planning and community planning. From an examination of city plans, he found that the topics most frequently discussed fell within the following categories: major streets, transportation, transit lines, zoning, civic art and public recreation. He also found these elements considered in many school building surveys and planning programs. (18)

In 1952 Holy (17) made another comparable study and found the very same elements being considered. He gave many reasons why the two programs should be closely coordinated. Several considerations were

discussed at length. By planning together, school sites can be chosen that school children will not have to cross dangerous highways and intersections, but still utilize public transportation systems. School sites may be located in areas protected from undesirable elements by zoning ordinances. The play grounds can be planned for both community and school recreational purposes.

In two states, California and Ohio, cooperative planning by school boards and planning commissions is required legally in the selection of school sites. (1, p. 34)

The question of community planning and school planning are parallel community problems and should be very closely coordinated.

Bursh (7, p. 18) writes:

Not only school plant planning but also community and regional planning are continuous processes. As such, their problems are subject to constant evaluation. The local planning body must be kept continuously advised on the problems of the public school in order that the school district may know that its welfare is being given constant consideration in the growth of the community.

Community lay citizen groups can also contribute to the effectiveness of the school plant planning program. The benefits to the school district will be realized more in public interest in its affairs than actual benefit to actual planning. When the interest of the community is cultivated in school affairs and its participation sought, it will assume more willingly its obligations and responsibilities. There are also special considerations to be given to school building planning if community use is encouraged. (7, p. 23)

American School Buildings (1) published by the American Association of School Administrators, describes many ways in which community groups can participate.

Lay citizens of the community cannot decide technical problems of school building and should not be asked to determine just how the program that they are considering should be interpreted in terms of the kind of plant to be constructed. They should, however, definitely participate with the board and the superintendent in the broad concept of the kind of school system toward which the community is working. It will make considerable difference not only in the kind of buildings that are built but of the support of the community in any future building program, if the citizens have participated in lay groups and special committees in the solution of the problem of projected school services. (1, p. 32)

The architect plays a very significant and professional role in school plant planning. After all the participating groups have done their part in preparing an educational plan, the architect is in a position to carry out his major function of designing and bringing to completion the form that best expresses all of the educational plans and hopes of the community. (1)

Architectural services include not only the making of drawings and the setting up of specifications, but the giving of advisory services to the board on many related matters, such as studies of the site, preparing bids, and reviewing the bids received, preparation of contracts and time schedules, supervision of the building construction, and certifying and approving of payments to contractors. (1, p. 25)

Steele in his dissertation (23, p. 30), described the functions of the architect as follows:

1. Technical and creative planning to convert clearly worded and understood statements of building needs to acceptable space and service units to be provided within the new building.
2. Availability and use of various building and engineering specialists necessary in the design of the building.
3. Development of detailed plans and specifications from which the building will be constructed.
4. Correlation of the work of the many building trades engaged in the construction of the building to make certain that the building is actually constructed as planned and specified.

5. Advisory and counseling service in the selection of sites and the making of sites studies, in preparing advertisements for bids and reviewing bids received, in the preparation of contracts and time schedules, and in certifying and approving payments to contractors.
6. Necessary approvals of plans and specifications from reviewing agencies.

Other studies and writers would agree with this quite completely.

(21, 7)

Functions of state department of education in local building programs differ in various states, depending upon state law. Usually the department has responsibility for interpreting and enforcing minimum legal requirements to promote safety, protect the investment of public funds, and to promote good educational practices.

For many state departments the trend seems to be to act in a consultative and advisory capacity on details for these districts which seek such services, leaving the responsibility for final decisions to the local board of education, except where legal regulations of the state are involved. (1, p. 29)

The state department of education can be of particular value to small rural districts where it is impossible to find local personnel or cannot employ professional educational consultants. (7)

Whether state approval of plans is legally required or not it is desirable for plans to be submitted to the state authorities in the preliminary drawing stage, to be checked for compliance with state statutes and regulations for satisfactory building utilization, and as far as possible, for provisions for meeting the changing needs of education. (1, p. 29)

Some Devices and Technics used to Study Needs and Develop Plans

The use of maps, charts and graphs is recommended to clarify many problems to be considered in the study of long-range building needs and the consequent development of a master plan.

Caudill, Research Architect, A & M College of Texas, (9, p. 28) stresses the use of maps and charts to assist in the selection of school sites. He suggests that seven different factors be shown. They are as follows: (1) where present students live, (2) where pre-school children live, (3) location of land available for school sites, (4) boundaries established by zoning ordinances, (5) factors that hinder residential expansion, (6) traffic patterns, and (7) directions and areas of probable community growth. He stresses the use of graphs for predictions of enrollments for up to twenty years to be used for consideration of a long-range building plan. Mr. Caudill contends, after many years of experience, that these maps and charts make the selecting of a site much easier because they present a better over-all picture. It also makes presentation to the school public easier and more clear. If selfish interests are being promoted, the use of such charts and maps will allow the people to judge in favor of more logical sites.

Church, et al., (10, p. 52) recommend spot maps which will pictorially show the following facts:

The approximate residence location of each preschool child, of each in school pupil, and of new residences in the community. Separate spot maps should be made for preschool, elementary, and high school pupil residences.

The yearbook, American School Buildings, (1, p. 62) considers the use of maps advantageous in presenting the following information:

1. Number, kind and cost of residential buildings erected in the community over a ten-year period. These should be shown on a map so that the locations of recent growth can be easily observed.

2. A map showing the zoning provisions, if the community has a zoning plan. These show the areas of the community which are designated for business, industry, and residences of various kinds.

3. A map showing the location and area of all public parks and playgrounds, and other spaces that might be available for recreational purposes: also museums, libraries, and other educational resources.

4. Recent growth of the school district area and its probable future, extensions, including those resulting from the reorganization of school districts. Also there should be gathered information on how the projected building plans will affect transportation, both school and community, and well-established neighborhood areas.

5. Spot maps for each division of the school system, that is, elementary, junior high school, and senior high school, showing the residence location of each pupil enrolled in the schools during the year in which the study is being made.

6. A map showing the location and area of school district property now being used for school purposes.

It should be agreed then that mapping and charting of information helps to clarify and study the problems involved in school plant planning. They are particularly helpful in the presentation of factual information to lay people and study groups in a more meaningful manner. Charts are of particular value in population projections beyond the years covered by census information.

Another technic that can contribute significantly to long range master planning is curriculum planning and study groups. In such planning groups, methods of teaching and school curricular offerings are closely scrutinized. Implications for materials and equipment needed are developed from such studies. That this is important is recognized by many writers in the field of school plant planning.

The plant must be planned to provide the facilities necessary for the efficient and effective accommodation of all phases of the curriculum. (1, p. 85)

The significance of the curriculum is profound in a planning program. The superintendent together with his officers and teachers must be able to state to their architect the teaching requirements of the curriculum. (7, p. 58)

Programs of Financing School Plant Needs

A long-range plan to provide for school building needs would not be complete unless a financial plan to pay for the planned facilities is formulated.

Caudill recommends the careful investigation of the following factors in developing a financial plan: taxable wealth, bonded indebtedness, and possibilities of state or federal aid. (9, p. 41)

Church, et al, has described in detail the steps to be taken and factors to be studied if a survey of financial resources is made when planning a building program. He writes that a study of the relationship of the need for capitol funds and the financial ability of the school district to provide the needed funds is imperative for several reasons. The reasons listed are:

1. The educational program should not be jeopardized by diversion of funds from current operation to capitol purposes.
2. Capitol outlay costs should not place an undue additional burden on the taxpayer.
3. The amortization of capitol costs should not involve unwarranted interest costs.
4. The costs of plant expansion must be within the limits of the financial resources of the school district.
5. The plan for obtaining funds for capitol expansion must be acceptable to the public.

The importance of financial planning as a part of a long-range master plan is emphasized by Bursch. (7, p. 65) He writes as follows:

One of the great advantages of having a long range master plan will appear in the opportunity it offers to make a long range plan to finance future construction programs. This is especially useful if it is decided to raise money by means of an accumulative building fund or some other procedure that may require some years to provide money. Without a master plan, virtually the only recourse that a district has to raise building money is by means of a bond issue which does serve the purpose of providing money on a short notice. The financial program is essential; without it the best of plans will remain only paper plans.

Information in this chapter has indicated that: (1) It is important that basic policies be established to define the scope, quality and objectives of the educational program designed for a school district; (2) that there are numerous groups and individuals that can significantly contribute to effective school plant planning if given the opportunity to do so; (3) that the use of various maps, charts, graphs, and study technics are important to clarify and define important issues; and (4) that a long-range financial program is an essential part of a complete master plan.

CHAPTER IV

DISTRICT SCHOOL PLANT PLANNING PROGRAMS

A personal interview with the superintendent of each of the selected school districts provided the information presented in this chapter. An interview questionnaire served as a guide to make certain that comparable information was obtained from each district. After each interview, a description of the planning procedures of the district was written.

District ASchool Board Policies Basic to School Plant Planning.

Range of educational program. It has been determined that district wide public education should begin with a six week summer kindergarten session. The board has never considered extending education beyond the twelfth grade or accelerating the program so as to terminate high school at the end of eleven years.

Grade grouping. Grade grouping within the district is predominantly on the six-three-three- plan and it is planned that this program be district wide. There are a few eight grade elementary schools and some ninth grade students in the high schools at the present time.

Enrollment per classroom. The board of education has determined that the most desirable number of students for an elementary classroom is 28 to 30, and is using these figures as a basis for school plant planning. In the secondary classroom the most desirable number has been set at 30 to 35 in academic subjects.

Community programs. For community recreational purposes, the board of education permits the use of the school plant and whatever facilities they have available. Several communities in the district have helped

finance the construction of athletic facilities, gymnasiums, purchase of school sites, and the development of the playgrounds. The adult education program has not been given much consideration.

Enrollment per site. Maximum enrollments per site have never been determined. Each site is considered and evaluated in terms of the particular needs of the community it serves.

School plant surveys. The district has had three separate building surveys since 1947. The first one was made in early 1948 by a visiting group of professional educators. Late the same year another study was made for fire insurance purposes. This last study mentioned was re-worked and brought up to date in 1951. The Temporary School Building Survey Commission created by the Utah state legislature in 1951 made a complete survey of the district when the district applied for emergency state aid for school construction. The board of education has made no policies concerning surveys to be made in the future.

Transportation. Minimum transportation distances have been adopted by the board of education. Elementary students will be transported a minimum of $1\frac{1}{2}$ miles and secondary students two miles.

Facilities for exceptional children. Classes for exceptional children or special provisions beyond physical examinations have never been considered.

Individuals and Groups Utilized and the Roles They Have Taken.

School board. The board of education has been concerned with considering information about the needs of the district as they have been presented by the superintendent. It has considered plans for construction and remodeling with the superintendent and architect as they have presented them. The board of education has actively participated in the formulation of a financial program for each project as it is planned.

As a group they have made little effort to study the needs of the district or to define the educational program beyond that which has become traditional.

Superintendent and staff. The superintendent has carried the major portion of the responsibility for all phases of the school building program. He alone has been responsible for studying the needs of the district and presenting them to the board of education. He has worked closely with the board of education in developing financial plans. He has worked with the architect in planning new facilities.

Principals and teachers. The opinions of principals and teachers have been utilized in planning only as the teachers or principals have individually seen fit to call some matters they felt were important to the attention of the superintendent.

Community planning commission. There are no legally organized planning boards in any of the communities in the district.

Community lay citizen groups. Organized lay citizen groups have done little or nothing in relation to a district-wide planning program. The town boards in some of the communities have taken part in some phases of the planning of school facilities for their own communities.

Architect. The superintendent and the architect have shared the responsibility of designing facilities for the district. The architect has designed the facilities from the information given him by the superintendent. The architect has been responsible for the supervision of construction projects and has represented the board of education in legal matters as well as in problems of design.

State school office staff. The state school office staff has been of limited service to the district in matters of school plant planning. They have done little more than give formal approval to plans presented by the superintendent and architect.

Some Devices and Techniques used to Study Needs and Facts. Relatively few studies are concerned with total attendance figures for each individual school area. School population predictions for the future have been projected only as far as present census statistics are available. The administration has held that this is adequate because of the relative stable and static school population. There have been no maps prepared to show possible school sites, population locations and trends or traffic patterns. The only use the district has made of mapping or charting procedures has been for transportation purposes.

The district has sponsored curriculum evaluation studies in the past. At present they are working out a curriculum study with the Kellogg foundation. It has been a policy of the district to sponsor and foster continuous curriculum studies. These have been interpreted into building needs.

The district has no written statement of objectives or guiding philosophy. They have a project in mind that will produce such a statement in the near future, however.

Program of Financing School Plant Needs. The district does not expect to receive federal assistance for school plant needs. It has never received any share of the state building fund, and is not planning on such assistance. It has determined to go forward on a pay-as-you-go plan. The district is taxing the maximum limit for this purpose, has done so in

the past few years and expects to continue in the future. It is not expected that the district will resort to bond issues of any kind.

District B

School Board Policies Basic to School Plant Planning.

Range of Educational Program. It has been determined that district wide public education should begin at the kindergarten at age five. The kindergarten is conducted through the full school year. The need for nursery schools has never been recognized as necessary in the district. The district has never considered extending its program beyond the twelfth grade, because of the junior college in the community, but does make every effort to cooperate with the college. To accelerate the program so as to terminate high school education after the eleventh year has never been considered.

Grade Grouping. The grade grouping in the district is entirely on a K-six-three-three basis. During the past few years several changes have been necessary to arrive at this organizational plan. At the present this program is district wide and the board feels that this is the most preferable administrative program.

Enrollment per Classroom. For planning purposes the board of education has set 30 students as the most desirable number in an elementary classroom. They have set a maximum of three teachers or classrooms per one hundred students. All planning in recent years has been on this basis. For purposes of planning a standard of twenty-seven students per classroom in the secondary schools has been used. This has been interpreted as meaning an average of twenty-seven students in all classes of all subject areas.

Community Programs. The board of education has established definite policies concerning the community recreation program. It has made all school plant facilities available to the city recreation department. The recreation department has accepted the responsibility for reasonable care and use. Other groups are permitted to use the school facilities if they are organized under some one responsible for the reasonable use of the buildings.

The adult education program has been considered a function of the college in the community and the district has supported its program. If some particular group has desired work in some area not taught at the college, then the district has tried to fill the need.

Enrollment per Site. The elementary schools in the district have been planned both as to size of plant, and size and location of site, to meet the needs of from five hundred to seven hundred fifty students, or an average of about one hundred students per grade. It is thought that less than five hundred students per plant is too expensive in terms of heating, administration, maintenance, and other relatively fixed charge factors. If more than 750 elementary students are accommodated then transportation becomes a problem.

The junior high schools are old schools and the policy is simply to utilize them as far as possible. The junior high school sites are too small for the number of students taught in every case. The high schools, of which there are two, have been designed for 1800 and 1200 students, and both have large adequate sites.

School Plant Survey. School plant surveys are a definite part of the district program. They are required annually and almost continuously. They are made by district personnel with the assistance sometimes of

community personnel. It is an important function of the supervisor of buildings and grounds, with the principal of each school, to make an annual survey of each school plant. These people may request the services of the architect, fire chief, health officer, planning commissioner, engineer, or anyone else they feel should be consulted. This has resulted in a long range maintenance, repair, and improvement plan for every school in the district.

Transportation. Because the district is a city district and quite closely and heavily populated, the policy is to keep out of the transportation business. As far as possible, sites are chosen and facilities provided to keep transportation to a very minimum. It is a policy that elementary children living over $1\frac{1}{2}$ miles and secondary children living over 2 miles should be transported to school.

Facilities for Exceptional Children. Educational facilities for children afflicted with cerebral palsy are provided in a wing of a new elementary school building. Facilities for slow learners are also provided. The board has not thought it necessary to provide facilities for any other groups.

Individuals and Groups Utilized and the Roles They Have Taken.

School Board. The board of education has participated in school plant planning to the extent of studying facts and proposals prepared by others. It has been conscientious about developing sound policies that will foster good planning. They have been very active, both as a group and as individuals, in forming plans to inform the public of needs and proposals to meet these needs. The board has employed the personnel needed to conduct the school building program.

Superintendent and Staff. The superintendent is the coordinator of all aspects of the school plant planning program. He spearheads and organizes the efforts of all other participating groups into a master plan for the entire district. All staff members have been utilized in the development of this plan. The assistant superintendent in charge of curriculum has worked on district wide plans, as well as individual plant plans, and he has developed the educational specifications from the curriculum point-of-view. Assisting him in his curriculum work have been teachers, principals, and lay people. The Director of Pupil Personnel has worked on population and attendance statistics. His department has determined attendance figures for each year, for each school, and for future years. The superintendent has studied these figures for indications of need. The Supervisor of Buildings and Grounds has made annual surveys of the school plant facilities, and has developed a master plan to guide the planning of renovations, remodeling, and maintenance. He has had principals, custodians and teachers assist him.

The superintendent has assembled the information from all of these sources, compiled it into a master plan for the district.

Principals and Teachers. The principals and teachers have had a part to play both in the evaluation of present facilities, in improving facilities and in the planning of new school plants. This has usually been accomplished through the assistants to the superintendent.

City Planning Commission. The superintendent has worked very closely with the city planning commission. The city planning commission has given much valuable assistance in planning for new schools and the development of school sites. In this way playgrounds have been developed and

planned for greater community use. The city planning commission through their zoning ordinances have been able to protect the schools from undesirable developments in the immediate areas. They have given assistance in mapping school sites, available locations, and current and expected community developments and expansion.

Community Lay Citizen Groups. Various community groups, chosen at large, usually in cooperation with P.T.A. organizations, have participated in nearly all aspects of planning. They have studied the conditions of present facilities, needs for increased facilities, development of plans for buildings, the choice of sites and methods of finance. These groups have been active in developing community interest and keeping the public informed of the program.

Architect. The board of education employs an architect continuously. He has been called in very frequently to assist in many ways. He has worked with the Supervisor of Buildings and Grounds in appraising buildings and planning remodeling and maintenance. He has assisted in an advisory capacity to all other groups. He has developed plans for new buildings, and when other architects have been needed, he has supervised and coordinated their work. He has at times called in other engineers and specialists to help him.

State School Office Staff. The state school office staff has been of limited service. The home economics facilities have been worked out closely with them. Standards, as required by the state office, have been met.

Some Devices and Technics Used to Study Needs and Develop Plans. The superintendent has made maps and charts to show where every student lives, for each school area and grade in the district. This has been projected

to the school year of 1957-58. In cooperation with the City Planning Commission, they have made maps showing available land for school sites, zoning boundaries set by zoning ordinances, streets, highways, and traffic arteries, dedicated rights of ways, existing and proposed playgrounds and school centers, and expected areas of new development.

Enrollments have been projected through school census information through the school year of 1957-58. Beyond that period the projected figures published by the state office have been used just for indicative purposes.

Curriculum studies are carried on continuously and currently, headed by a staff assistant.

The district has published a booklet for use within the district, containing district rules and policies. They have no printed statement of philosophy or objectives.

Program of Financing School Plant Needs. In the past few years, new building has been financed by bonding. The one elementary school now under construction will use the remaining money from this source. Some limited assistance has come from federal funds, but not much more, if any, is expected from that source. No state aid is expected.

It is the intent to levy the maximum from now on and accumulate this to operate on a pay-as-you-go basis. If this cannot keep up to the needs of the district, then another bond issue will be considered.

District C

School Board Policies Basic to School Plant Planning.

Range of Educational Program. At the present time education begins in the first grade, age six. The district definitely has decided that

kindergarten is desirous, but because of limited facilities, it has not been held. New buildings have been planned for a full year kindergarten program throughout the district.

Because of the junior college in the largest community in the district, there has been no thought given to extending public education beyond the twelfth grade; nor has there been any thought given to cutting the program to less than twelve years.

Grade Grouping. Predominantly, the grade grouping within the district is on a six-three-three basis. One section of the district is operated on a six-six plan. It is planned that the program will continue this way. It is thought that this is the most efficient program for the various areas of the district. There are a few eight year elementary schools, also, but these will be absorbed by new schools and improvements in the district in the near future.

Enrollment per Classroom. The standard of not more than 30 students per elementary classroom has been set for planning purposes. In secondary schools, planning has been on a basis of 30 to 35 students per classroom. These figures have been used as an average figure for all classrooms in all subject areas.

Community Programs. The district has chosen to jointly sponsor and support a county wide recreation program. It has allowed the use of the entire school plant for recreational purposes; and special features of design have been considered to make the facilities more adaptable to recreational needs. Two members of the school board are also members of the county recreation board. This assures the maximum degree of cooperation between the two groups.

The adult education program has used any or all of the school facilities. The district has sponsored many adult education programs

for various groups in the district. If college credit has been desired, then the community junior college has conducted the course; otherwise, the district has met all recognized needs for adult education.

Enrollment per Site. The elementary schools in the district vary in size over a wide range. The school board has determined that a school will not be conducted for less than twelve students. This policy is necessary because a large part of the county is very sparsely populated. In the larger communities, elementary schools are planned for a minimum enrollment of 300 students to a maximum of 500 students. They feel that experience has shown that more than 500 students are too many.

No definite standard has been considered for either the junior high school or high school sites. These have been established for a long time and are still adequate for present enrollments.

School Plant Surveys. The board of education has considered school building surveys as necessary regularly and periodically. In 1948 a complete survey of the conditions, needs and desired improvements of every school plant in the district was made. This was projected over the next ten year period. Since then, this has been reworked and revised each year. This program guides the planning for renovating and remodeling of all the plants quite systematically. The study was originally made by a committee made up of school board members, administrative personnel, and community lay citizens. The committee personnel has changed, but a similar committee works to keep the survey current.

Transportation. The district transports all students who live $1\frac{1}{2}$ miles or more from their school.

Facilities for Exceptional Children. There are no special facilities provided for exceptional or handicapped children, and no definite

plans have been made for provision of such in the future. The need for special facilities is being studied at the present time.

Individuals and Groups Utilized and the Roles They Have Taken.

School Board. The school board has very actively participated in all phases of planning school facilities. They have worked and studied as individuals, as a group, and in conjunction with other groups. The board has participated in the surveys of existing facilities, studies of need for new or improved facilities, and in the planning of new facilities. It has taken definite responsibility for some parts of the planning and shared other responsibilities. It has worked out a financial plan to provide the facilities needed. The board of education has adopted policy that would stimulate groups planning on a district wide basis.

Superintendent and Staff. The superintendent has been a leader in organizing and coordinating the efforts of the many groups and committees who have participated. He and his small staff have worked as advisors, as well as members, of these study groups. The superintendent has insisted that all groups and individuals who were called to take part be recognized, and their proposals carefully considered. He has organized a planning procedure that has guided the district in planning new facilities, and also a plan for improving, renovating, and maintaining the existing school plants.

Principals and Teachers. Principals and teachers have had a definite responsibility both in planning a district wide program and in planning new buildings. They have served as members of various committees organized to study specific phases of the planning program. Both principals and teachers have worked with lay people on the following seven committees: site selection, district and school philosophy, finance, general exterior

planning, primary classroom planning, intermediate classroom planning, and service facilities. In planning the most recent building in the district, these committees met for one night each week for a period of three months.

After the first buildings planned by this method were finished and put into use, each teacher, principal, custodian, or anyone else who used the building, was asked to submit in writing comments, criticisms, and suggestions that should be considered in planning the next building.

Community Planning Commission. The community planning commission and the school planning personnel have worked very closely together. The planning commission has been very concerned with assisting the school people in every way they could. They have assisted in choosing and planning sites that would benefit the entire community. They have assisted in population studies and, by the use of zoning ordinances, protected the schools from undesirable elements. Through the community planning commission's efforts, the schools relationship to the community now and in the future has been carefully studied.

Community Lay Citizens Groups. It was noted in the section describing principal and teacher participation that lay citizens had served on seven planning committees concerned with different aspects of school building. The community representatives were selected cooperatively by school and P.T.A. groups. These lay people have contributed greatly to the planning program. They have taken part in planning, both on a district basis, and also for individual buildings. They have also studied the needs that exist throughout the district.

Architect. The architect has been employed to design the buildings from the specifications developed by all the various groups participating.

He has sat as a consultant to each group when requested, and has given careful consideration to their recommendations. He has employed landscape architects to assist him and has directed the construction of each building to its completion.

State School Office Staff. Various people from the state school office staff have been consulted in planning. The elementary supervisor and assistant superintendent have worked with the district staff. The research department has given statistical assistance. The personnel in charge of school plant planning has given suggestions, as well as the required approval of the plans.

Some Devices and Techniques Used to Study Needs and Develop Plans.

Through the close cooperation of the district personnel and the community planning commission, many maps, charts, and illustrative techniques have been made and used. Maps have been made showing where every student and pre-school age child lives. This has been broken down to age grade levels and individual school areas. These are kept to the current year. Maps have been made showing land available for school sites, zoning boundaries, and direction and areas of expected community growth. The relationship of existing and proposed school centers to the community has been studied.

Population studies have been projected only as far as the school census gives information.

Curriculum studies were made by the committee working with philosophy. The implications for school facility needs were carefully considered.

A written statement of philosophy has been developed on an individual school basis, but not for the district as a whole.

Program of Financing School Plant Needs. Building and improvements immediately after 1948 were financed by a \$450,000 bond issue. These were short term bonds to be paid off by 1958. It was not necessary for the district to sell all of the bonds, however.

The latest school building and more recent remodeling is being paid for on a pay-as-you-go basis. Building needs in the future will also be met in this manner. The district expects to be out of debt in 1958.

District D

District Policies Basic to School Plant Planning.

Range of Educational Program. The district policy is to start public education with a full year, half day kindergarten, age five. This is being done at the present time, and it will be continued. There has been no thought given to extending public education beyond the twelfth grade or accelerating it to terminate a year earlier.

Grade Grouping. Grade grouping within the district is at present on a kindergarten-six-three-three basis. This is the organization thought to be best for the district, and the plans are to remain on this program.

Enrollment per Classroom. The board of education has determined to plan school plant facilities on the basis of 25 students per classroom in the elementary schools. In the secondary classrooms, 30 students are considered as the most desirable number. In the elementary schools the class size at present far exceeds the number that the district would prefer. The junior high school classes are also excessive, but the senior high school classes are quite near the desired size.

Community Programs. The school board has a very close administrative association with the community recreational program. Two of the school board members are also members of the community recreation board.

Because of this policy of complete cooperation, the entire school plant is available for recreational purposes if desired. The recreational needs of the community have been considered in planning for additional facilities.

The board of education permits the use of the entire school plant and its equipment when needed for community adult education programs. The district has a college within its boundaries, and in planning the adult education program, duplication of courses is avoided. This program has been important enough to the district, however, that a director of adult education has been appointed, and the facilities needed by the program have been considered in planning new buildings.

Enrollment per Site. The most desirable number of students per school site for both elementary and junior high schools has been set at 500 students. Many schools at present exceed this figure, however. The district expects to educate all senior high school students in one plant. The new senior high school, planned for immediate construction, has a site of 25 acres. The desired size of the elementary school sites is not less than 8 acres, while 15 acres is desired by the district for the junior high schools.

School Plant Survey. A school building survey has not been made district-wide since 1928. The board has never considered one necessary and has no definite policy regarding surveys.

Transportation. Transportation is a complex problem in this district. Because of very crowded elementary classrooms, students living close to one school may be transported across the district to a building less crowded. The board, however, plans to transport no student

less than $1\frac{1}{2}$ miles from a school when the desired facilities are provided.

Facilities for Exceptional Children. Special classes are provided for seriously crippled and physically handicapped children. Also, classes for the slow learners are being taught. There have not as yet been any special facilities provided for them; neither are there any plans for providing them.

Individuals and Groups Utilized and the Roles They Have Taken.

School Board. The board of education has been chiefly concerned with studying recommendations and studies made by the school staff and other participating groups. All their work has been in studying proposals made by the superintendent and the architect. They have taken the leading part in financial planning.

Superintendent and Staff. The superintendent has coordinated the efforts of various groups and individuals. He has coordinated their work and kept the board informed of recommendations. The superintendent has called on many of his teachers and principals, and many lay study groups, to assist in phases of the planning. He has worked closely with the county planning commission and also the architect.

Principals and Teachers. The principals and teachers have participated in determining the educational program to be provided for. Their chief concern has been in curriculum areas. They have studied the educational program for the district in many ways, but have not participated directly as a group in the planning of school plant facilities. Some few have worked with community groups in planning a particular part of the program.

City Planning Commission. The superintendent and school board work very closely with the city planning commission, particularly in the choosing and developing of new school sites. The city planning group has been of service to the schools by mapping all available school sites, studying community growth trends and traffic patterns. They have also given assistance in planning playground development.

Community Lay Citizens Groups. Many lay groups have been organized to study various phases of the building program. These groups have been composed of members of P.T.A. groups, labor organizations, Chamber of Commerce, and many other community organizations. There has never been a central committee organized for a comprehensive study of the building program. These groups have not been concerned with planning, but rather to approve or disapprove of plans already developed. The general public has been invited to inspect plans and attempts have been made to keep the public aware of the program as it develops.

Architect. The architect has been prominent in all planning activities. He has worked on the planning of recent new buildings from their very beginning to end. He has helped in selecting sites, planning all facilities, and supervising the construction programs. In fact, the architect has been more responsible for actual building planning than any other individual or group.

State School Office Staff. The state school office staff has given assistance in planning facilities for the new buildings, but not in a district wide building program. They have given assistance in the planning of facilities in home making, physical education, and from the elementary supervisors. The office has also given suggestions along with approval for the final plans.

Some Devices and Techniques Used to Study Needs and Develop Plans.

The superintendent, along with the county planning commission, has made current maps and charts showing where students live and the school they attend. This information has been used for planning new school facilities, but more for transportation purposes. This has not been projected beyond present enrollments. The planning commission has prepared maps showing: available school sites, areas of community growth, zone boundaries set by zoning ordinances, and maps showing traffic patterns, main streets and dedicated rights-of-way. Future enrollments in terms of totals have been projected for ten years into the future. Curriculum studies are being conducted continuously and currently throughout the district. The board has prepared a written statement of objectives and philosophy as well as a written statement of board rules and regulations.

Program of Financing School Plant Needs. At the present time, to finance a high school now under construction, the district is bonded to its legal limits. After these bonds are paid off in 1958, the district plans to levy the maximum allowable, if the public will vote for it. This will finance needed building and maintenance.

District E

School Board Policies Basic to School Plant Planning.

Range of Educational Program. In all schools of the district where there are enough students, kindergarten is held. There are two small schools where no kindergarten is taught. The board of education deems it unadvisable to extend the program to these schools. No thought has been given to an extended program beyond the twelfth grade.

Grade Grouping. Grade grouping within the district varies greatly. The predominant program is on a kindergarten-six-six basis. In one community a kindergarten-six-three-three program exists, while one school houses grades one to eight. The policy of the board of education is to establish eventually a kindergarten-six-six program district wide.

Enrollment per Classroom. The board of education has determined that most desirable number of students in both elementary and secondary classrooms is not more than 30.

Community Program. The school board has adopted a policy of permitting the county recreational program use of the swimming pool, music rooms, and outside play grounds. There has been no thought given to an expanded recreational program, nor to closer cooperation with the program.

There has been, in past years, an extensive community adult education program. The school board permits the use of the entire school plant and equipment. The facilities in home economics, physical education, and business courses have been expanded to meet the needs of this program.

Enrollment per Site. The schools throughout the district are on small inadequate sites. The board is making some effort to increase their size to at least five acres. No definite size for each school has been established as desirable.

School Plant Survey. A school plant survey has been made each year by the superintendent, principals, and school board. A full day has been taken for each building. The policy is to continue this in the future.

Transportation. Minimum transporting distances have been set at $1\frac{1}{2}$ miles for elementary students and $2\frac{1}{2}$ miles for secondary students.

Facilities for Exceptional Children. There have been no facilities provided for the exceptional children. The superintendent has been asked to study the feasibility of special classes for the slow learners.

Individuals and Groups Utilized and the Roles They Have Taken.

School Board. The school board has taken a very active and leading role in formulating and working out plans for a building recently constructed. They have helped develop plans, worked with the architect, presented the plans to the community, and worked out the financial plans. They have studied needs with the superintendent and with him have presented their program to the community.

Superintendent and Staff. The superintendent has worked through the program with the board of education and the architect. He has led out in public relations work in interpreting needs and building plans to the public. He has worked with his principals and teachers and the people concerned with school buildings from the State Department of Public Instruction. The planning has been concerned with planning a building. There is no master plan for the entire district.

Principals and Teachers. The principals and teachers of the district have taken part in curriculum planning and in planning facilities for their particular classroom or school.

City Planning Commission. The planning commission has been concerned with working out sewerage and electrical connections with the district school board. They also participated in the final selection of a new school site. They have worked in cooperation with the school board and the city council in increasing the size of some present sites.

Community Lay Citizen Groups. There has been no effort made to organize community groups for planning purposes. In promoting the bond election necessary recently, three town meetings were held to discuss the problem of need for a new building.

Architect. The architect has been very active in all phases of planning the new building. He has worked very closely from the beginning of planning of the new school building to the end of construction with the school board and superintendent.

State School Office Staff. The state school office has been very prominent in the planning of the new school building. They were interested and took part all through the planning stages.

Some Devices and Techniques Used to Study Needs and Develop Plans.

Studies of where students live have been by totals for each community at each grade level. The school population has been projected only as far as the present census cards. There are no maps used for study purposes except for transportation routes. There have been studies made by the county planning committee pertaining to community growth trends.

Curriculum studies are currently going on during this school year. Nearly all teachers in the district are participating. A comprehensive study of curriculum was made three years previous to this.

The board has no written statement of objectives or philosophy.

Program of Financing School Plant Needs. At the present time the district is bonded to its legal limit. This was necessary for the recently finished elementary school. It has been planned to pay these off as rapidly as possible. If more building is needed, then another bond issue

will be necessary. The district school board does not feel that a pay-as-you-go plan would ever yield enough to work with.

District F

District Policies Basic to School Plant Planning.

Range of Educational Program. It has been determined that public education should begin with a full year kindergarten in all communities except two, where enrollments would be too small to justify a class. The district has never considered extending education beyond the twelfth year, nor has it considered a program less than twelve years in length.

Grade Grouping. The grade grouping within the district follows no set pattern. It varies from community to community. In one community is a kindergarten-six-three program, another, a kindergarten-six-four-two; others have kindergarten-six-six organization, and still another a six-three-three plan. The board of education has yielded to community pressures and does not plan to adopt a uniform program district-wide.

Enrollment per Classroom. The district has adopted the policy of planning for 30 students in both elementary and secondary classrooms. This has been considered the maximum number desirable.

Community Programs. In relation to the community recreation program, the board of education has adopted a policy of complete cooperation, and permits the use of the entire school plant and its facilities as needed.

Community adult recreation programs are sponsored by the board of education whenever requested by a community group. The requested classes have been almost entirely in agriculture and home economics. The facilities of the district have been available for these programs.

Enrollment per Site. Most of the school sites are very small and recognized to be inadequate. The board has decided to increase these

wherever possible. The ultimate size will depend on nearby property available to the district.

School Plant Surveys. The district has entertained two comprehensive surveys; one was conducted in 1948; the other was in 1951 as part of the State School Survey. These studies included every school building within the district. Factors studied were: population trends, building needs, reorganizational needs and possible financial programs. Because of the scope of these two surveys, and because of the unfavorable attitude shown towards the recommendations, the board has decided that no more surveys need be made in the future.

Transportation. The district has adopted the state policy of providing transportation for elementary students living over $1\frac{1}{2}$ miles, and for secondary students living more than 2 miles.

Facilities for Exceptional Children. No special classes or facilities are provided for exceptional children. There are no plans for any program in the future.

Individuals and Groups Utilized and the Roles They Have Taken.

School Board. The board of education has dominated whatever planning has been done in the district. Two buildings recently constructed in the district were planned and carried to completion almost entirely by the board of education and the architect working closely together. They have also planned the financial arrangements for the district.

Superintendent and Staff. The superintendent has not been concerned with school plant facilities beyond provision of equipment. He has taken little part in studying and analyzing future needs of the district.

Principals and Teachers. The principals have been consulted about needs for their particular buildings by individual board members or as a full school board group. Teachers have had little or no voice in planning school facilities.

City Planning Commission. There is no planning commission legally constituted within the district.

Community Lay Citizen Groups. There has not been any participation by any community group either in a planning or a study capacity.

Architect. When the board of education has decided to investigate the need for a building program, they have employed an architect to study the needs with them. He submits plans for the board's approval and supervises the project to completion.

State School Office Staff. The state school office has been of limited service. They have participated only to the extent of giving formal approval to plans in years past.

Some Devices and Techniques used to Study Needs and Develop Plans.

There were no evidences of maps or charts being used to study needs in the district. Current maps showing transportation routes have been made. These maps show all bus stops, number of students picked up at each stop and school plants within the district.

Population studies have been made to determine district totals for each grade through the 1957-58 school year.

Curriculum studies are currently being made in some of the schools of the district. This is the first study for some time.

There is no written statement of objectives or philosophy directing the action of the board of education.

Program of Financing School Plant Needs. The district is bonded to near the maximum limits until 1958. No thought has been given to financial problems beyond this date.

District GDistrict Policies Basic to School Plant Planning.

Range of Educational Program. At the present time, public education begins with the first grade, age six. The board is studying the possibility of a full year kindergarten program for the next school year. The district has not considered any program beyond the twelfth grade.

Grade Grouping. The district is now organized entirely on a six-six plan. The board policy is to develop a kindergarten-six-six program.

Enrollment per Classroom. The board of education has established the most desirable number of students per classroom in both elementary and secondary grades at 25 students.

Community Programs. It has been the policy of the board to cooperate completely with the county recreation program. Two members of the board of education are also members of the county recreation board. The entire school plant has been used as the recreational directors see fit.

The adult education program has been very limited in the past. The school plant has been available for adult classes whenever they have been organized.

Enrollment per Site. The district has no policy as to size of site or maximum enrollments. There is only one site in the district. It consists of twelve acres, not all of which is developed and used at present. Plans are being made to enlarge the lawns to include the remaining section.

School Plant Surveys. A school plant survey of the district was made in connection with the State School Survey in 1951. The board of education, in close relationship with the superintendent-principal, feels that school plant evaluations should be made continuously by themselves.

Transportation. The board policy is to furnish transportation for all students residing beyond one mile from the school plant.

Facilities for Exceptional Children. Because of the small total enrollment in the district, special programs and facilities have not been considered feasible. However, the superintendent has been asked to study the problem.

Individuals and Groups Utilized and the Roles They Have Taken.

School Board. The school board has participated in school plants planning to the extent of studying facts and proposals presented to them by other planning parties. It has been conscientious about developing sound policies that will be basic to good plant planning. The board has developed a financial plan to provide for the needs of the district.

Superintendent and Staff. The superintendent has been the instigator and coordinator of the school plant program. He has worked very closely with his principals and teachers, his maintenance force, and his architect to provide the needed facilities. He has developed a very systematic procedure for studying the needs of his district and also to meet those discovered needs.

Principals and Teachers. The principals and teachers have had a very definite voice in planning all building projects, both for new and remodeled facilities. They are encouraged to present ideas for improving the school plant at any time. They also have taken part in planning and developing the entire educational program.

County Planning Commission. There is no legally constituted planning board or commission with the district.

Community Lay Citizens Groups. The community lay people have taken little or no part in school plant planning. The need for new additions

is usually presented in P.T.A. meetings. Other than this, the lay people have not been considered in planning.

Architect. When a need for building or remodeling is recognized by the board of education, an architect is employed to prepare plans in cooperation with the superintendent and his staff. The architect and the superintendent work out what they think is desirable, and then present it to the board for approval. The architect represents the district until final acceptance of the project is made.

State School Office Staff. The State Department of Public Instruction staff has been of valuable assistance to the district. They have been of service in planning multipurpose rooms, art rooms, and lunch facilities. They have given assistance in working out more economical building programs.

Some Devices and Techniques Used to Study Needs and Develop Plans.

Few study maps and charts have been made for study purposes. The reason for this is because of the static population and community, and also the high degree of consolidation within the district.

A current map has been made showing all bus routes and stops. Population studies have been made up to the 1957-58 school year from the census cards.

There have been no special curriculum studies made for some time. However, a continuous program of evaluation is claimed for the district.

A written statement of philosophy is being composed by the superintendent at the request of the board of education.

Program of Financing School Plant Needs. Needs in recent years have been met through bond issues. It is anticipated that future needs will be met in the same way. The district is very healthy financially.

CHAPTER V

AN ANALYSIS OF DISTRICT PLANNING PROGRAMS

In this chapter, the various district programs will be compared to the recommended practices. The programs of each district will not be evaluated nor compared, but emphasis will be placed on areas of indicated strengths or weaknesses.

School Board Policies Basic to School Plant Planning

It was determined in Chapter III that definite policies must be established as a basis for school plant planning. Unless basic policies have received careful consideration, future planning cannot be developed with reasonable assurance that the future needs will be adequately met. Only eight factors were considered in the questionnaire, each of which were widely accepted to be of fundamental importance. The essential element in regard to these eight items is whether a definite plan has been adopted by each district for each area.

Range of Educational Program. All seven sample districts have adopted a definite policy as to the range of the educational program. All the districts plan to start public education with kindergarten. Districts C and G have no kindergarten program at the present time, and districts E and F do not conduct kindergartens in some small communities. District A has a six week summer kindergarten session. The policy in every district is to provide a kindergarten program for all children age 5, as far as possible.

Grade Grouping. Extreme variations were found among the sample districts in administrative organization. All except district F have determined a definite organizational plan for the district. All districts,

except districts B and F, are not yet operating with the organizational plan determined to be best for the district. District B is operating completely on the organization thought best for that district.

Enrollment per Classroom. All the districts visited have set definite standards for maximum enrollments per classroom for instructional and school plant planning programs.

Community Programs. Community programs considered by the questionnaire were recreational and adult education programs. Definite policies are established in every district, except district A on recreational programs. District F has no established regulations concerned with adult education as all the other districts have.

Enrollment per Site. Rather than established district-wide policies or adopted standards concerned with maximum and minimum enrollments per school site, the practice has commonly been simply to operate the schools on the sites they now own. Districts B, C, and D have determined maximum desirable enrollments per site for elementary schools. There were no definite policies found anywhere as to area of sites. No policies were indicated in any way with respect to secondary school sites, except in district E.

School Plant Surveys. Practices and policies vary considerably among the selected districts in respect to school plant surveys. Districts A and D have no definite policy. Districts B and C conduct current annual school plant surveys using both staff and outside professional personnel. Districts E and G claim to make annual school plant surveys, but hold them to be of doubtful value. District F has found surveys of negative value and has ruled against surveys in the future.

Transportation. All districts have established definite policies on transportation, particularly the minimum distances school children will be transported.

Facilities for Exceptional Children. Only districts B and D have established policy relative to the planning of facilities for exceptional children. All other districts, however, are studying this problem.

Individuals and Groups Utilized and the Roles They Have Taken

In chapter III, it was found to be recommended practice for planning programs to be developed cooperatively. The groups investigated in this study were: (1) the school board, (2) superintendent and staff, principals and teachers, (3) community planning commissions, (4) community lay citizen groups, (5) architect, and (6) state school office staff. While these groups have been recommended for participation in cooperatively planning the school plant, each has been identified as being able to contribute to the greatest extent in particular areas and phases of the planning process.

School Board. The board of education has the responsibility of formulating policies, employing capable personnel, and giving formal approval to plans presented for their study. They should act as a corporate body, but as individuals acquaint themselves with the problems and recommendations presented to them. The board of education should develop a financial program based on the facts presented by other groups, as well as their own individual study.

The board of education in districts A, B, and D have participated in the planning program according to recommended practices cited. In the other districts they have extended far beyond the extent of planning recommended. The participation of the school board in the other districts

varies from cooperative planning with many other groups as in district C to complete domination of the entire process in district F. In districts E and G, the board of education extended themselves beyond generally recognized limits to the exclusion of other groups.

Superintendent and Staff. The role of the superintendent and his staff may be described as the key role in the entire planning program from start to finish. He must be active in the formative stages; he must be the coordinator and the driving force behind all activities. He must accept the responsibility in developing the program of school plant planning.

In terms of long-range planning, the superintendents of districts B and C were leading out in the development of a master plan which outlined a program of renovating and building over a future period of several years. In both cases a printed booklet had been developed as a guide for school plant planning and management. In these two districts many other groups had assisted in compiling the information presented and had participated in making many of the decisions. It was truly master planning. In the other districts, the superintendents have not developed a long range master plan. The planning has proceeded for facilities now being constructed or planned. The long-range concept has not been considered. District F has been dominated by the board of education to the extent that the superintendent has been excluded from the planning program almost entirely.

Principals and Teachers. The function of the principals and teachers has been identified with planning the curriculum and teaching program. Teachers and principals can make significant contributions in planning model classrooms, traffic movements, core-curriculum facilities, and

interplant relationships. Perhaps the greatest contribution the teaching staff can make is to project the educational program to a statement of building and classroom needs.

The participation of principals and teachers have varied greatly from district to district. District C has had committees of principals and teachers voice their opinions on all aspects of planning, both on a district wide basis and also in planning particular school plants and facilities. District B has used teacher and principal groups to study needs from the standpoint of present school building evaluation, as well as curriculum and teaching methods. They have had a definite part to play in planning new facilities. Districts D and G have used teacher and principal developed curriculum studies as a basis for planning new facilities. In both districts, teachers and principals have participated in planning classroom facilities. Districts A and E have asked for opinions from principals and teachers before plans for new facilities were approved by the board of education. In district F, the teachers have not participated.

Community Planning Commission. It is recommended that very close cooperation be developed between the school planning and community planning personnel, particularly in the choice and development of school sites.

In each district where a community planning group was functioning, close harmonious cooperation was indicated. This was particularly true in districts B, C, and D. In district E the community planning committee had comparatively little to offer the school district. In districts A, F, and G, there were no legally organized planning bodies.

Community Lay Citizen Groups. Lay citizen participation can best be utilized in development of a broad concept of the kind of an educational program the community is striving for. They can also contribute much in studying the needs of the district and appraising the present school plant.

Lay citizen groups have participated in most all phases of school plant planning in districts B and C. District D has used study committees on various phases, not for planning, but rather to get approval and support for action already taken. Districts E and G have presented final project plans for mass community approval. Districts A and F have not utilized lay participation to any degree.

Architect. The role of professional architect has been described as both design and consultative. He should be able to consult with all other participating groups to better determine the program he must design housing for. He should work closely with the superintendent and the board in letting bids, supervision of construction, and also give advice on many legal matters.

In all the districts the architects have given the services recommended that they should give. In some cases, they have been asked to plan buildings for educational programs not clearly defined.

State School Office Staff. The functions of the state school office in district school plant planning are two-fold: formal approval of plans after checking for general features and compliance with the legal provisions of the state; and, secondly, to give service in design detail and planning where districts specifically request it.

Districts A, B, and F reported that they had been given only limited assistance from the state office, little more than just formal approval.

Districts C, D, E, and G reported that adequate assistance was given in designing certain facilities. They reported that very helpful assistance was given whenever requested.

Some Devices and Technics Used to Study Needs and Develop Plans

The use of maps, charts, and graphs to present information clearly when selecting school sites and determining population trends and future enrollments is recommended. Practices found in the various selected districts varied considerably. The only maps that could be observed in districts A, E, F, and G were maps of transportation routes used for determining bus routes and stops. The other three districts, B, C, and D, have made extensive use of mapping technics. It should be noted that the three districts using maps extensively were also the districts working cooperatively with community planning commissions. The three districts had current maps made to illustrate school population residence, areas of community growth, traffic patterns and other factors influencing the choice of school sites.

Only districts B and D have made any effort to predict school population beyond the information obtained from a current census or to use projected enrollment figures for future planning. District B has used figures published by the state school office computed beyond 1958. District D has devised its own formula, based on experience during past years, to predict school enrollments for a ten year period.

All of the districts studied claimed that curriculum studies were being conducted in the district currently or recently. How these studies would affect the school plant planning program as it is administered in each district was not ascertained.

None of the districts has developed a written statement of objectives or philosophy of education to help guide a planning program. However, one district, B, has a written statement of board policy to which all staff and teaching personnel have access.

Program of Financing School Plant Needs

In chapter III, it was stated that a school plant planning program would not be complete without a financial plan. It was pointed out that one of the major advantages of a long range master plan is the opportunity it affords to develop a long range financial plan.

All of the district superintendents, except one, indicated that finances needed for future school plant needs will be raised by one of two methods. Districts A, B, and C expect to finance their programs on a pay-as-you-go basis. This method of financing school housing requires an annual tax levy sufficient to provide enough money to pay for the facilities as they are provided. Districts D, E, and G plan to raise the necessary funds by the sale of bonds.

District B has worked out a plan of remodeling and repairing for each school plant in the district. This plan includes a schedule of proposed projects and the estimated cost of each project. District C has decided to renovate one school plant each year. No attempt has been made to estimate the annual costs of this program.

All of the districts, except district B, have made no attempt to estimate the annual cost of their school plant program beyond the current year, except to meet payments due on outstanding bonds.

District F is undecided as to how they should finance their school plant needs in the future.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The results of this study justify the following conclusions:

1. The school building survey has proved to be an effective method of studying school plant needs. The survey technic involves the study of many factors which directly determine future long-range school plant needs in a district.

2. Long-range master planning of school plant facilities is an essential feature of good school administration. Experience indicates that long-range planning leads to sound practices of design, finance and economy.

3. The educational program to be housed must be defined before a long range master plan of school plant requirements can be initiated. The definition of the educational program desired in a district must be expressed by the school community and implimented by the policies adopted by the board of education.

4. If public support for a school plant program is to be assured, then lay groups must have the opportunity to assist in the formulation of the desired educational program, study the existing school plant facilities, and voice opinions concerning future school plant planning.

5. The superintendent must lead out in developing a master plan. It is his responsibility to lead out in the development of a program that will conform to the recommended practices. He must furnish the drive that will bring out the best thinking of all those who take part. It will be

the superintendent who must coordinate and assemble the information gathered and decisions made into a workable functioning master plan. It will also be the superintendent's responsibility to continuously alter and revise the plan as well as extend it as time passes and conditions change.

6. Many groups and individuals must be considered in planning a school building program. All personnel employed by the district, administrators, teachers, architects, consultants, and others, must work cooperatively with lay citizen groups if the planning for future school plant facilities is to meet all the educational needs of the community.

7. Close cooperation between school planning groups and community planning boards is essential. Both are working for a common goal, improvement of the community for better living conditions for its members.

8. Maps, charts, and graphs will help clarify many issues, particularly in choosing new school sites. They are an essential part of a long-range master plan for a district.

9. A plan to provide school housing facilities for a district should not be considered complete unless a parallel financial program has been developed to pay for the facilities planned.

10. The study of policies adopted in the selected districts showed that only two districts of seven had defined their school program sufficiently to warrant long-range school plant planning.

11. The concept of cooperative planning to meet school housing needs is not understood in many of the districts. Only two of the districts studied were utilizing all the professional school people and community groups recommended.

12. In districts where the community planning boards are legally constituted, maps and charts as study methods are utilized. Those districts where community planning boards are not functioning are not using maps and charts as recommended.

13. Financial programs to meet future needs were part of the planning in only two districts. Others had made plans only to finance current needs and projects.

14. Long range master planning based on population projection studies and school building needs were found to be non-existent. None of the districts studied had a long range program beyond five years in the future that considered school housing development and a proposed financial plant to accompany it.

Recommendations

The review of the literature and the results of the interviews with the superintendents have justified the following recommendations:

1. The State Department of Public Instruction, through staff members concerned with school plant planning, should promote the concept of long range district school plant planning.

2. District superintendents should be made aware of the purposes, methods and technics of master planning through study groups, institutes, workshops, etc.

3. The colleges and universities of the state should place more emphasis on the administration of a school plant program.

4. Further research is recommended in defining the contribution that could be expected from the various groups participating in a cooperative planning program. Further study in the methods of organizing professional and lay groups so that effective planning results is also needed.

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