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SCHOOL PLANT ADMINISTRATION SERIES

PROBLEMS IN PLANNING URBAN SCHOOL FACILITIES

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FOREWORD

The increase in the population of the United States and the rapid movement of people from rural to urban areas continue to create many problems in the great cities. Overcrowding of residential areas, congestion of streets and highways, increased demands for city services, and the changing social patterns of cities contribute to these problems. To solve them, immediate and long-range goals must be cooperatively established and striven for. Even though many of the legally constituted agencies such as the school systems, boards of health, highway departments, city planning commissions, and others are quite independent of one another, there is an essence of interdependence necessary to successful planning. Each agency would be in a better position to fulfill its own functions and objectives if it had an awareness of the problems of the other agencies.

This study, an attempt to identify characteristic problems in planning school facilities in metropolitan central cities, is one effort to acquaint the various planning groups with at least one phase of this very important and overall community interest.

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ACKNOWLEDGMENTS

This study was based on the information obtained through interviews with the general superintendents and/or the associate superintendents in charge of school-facilities planning in the 50 largest cities in the United States. The interview guide that was used was prepared as the result of a 2-day conference at which the school planning authorities representing 13 of these cities discussed problems of greatest concern to them.

Special acknowledgment is due to all of these officials for their willing and cooperative contributions, and to Dr. Glenn C. Boerrigter for his assistance at the beginning of the study.

The author also wishes to express thanks to Dr. Bernard E. Donovan, Executive Deputy Superintendent of Schools, Board of Education, City of New York; to Dr. Edwin A. Lederer, Associate Superintendent in Charge of Operation Services, Board of Education, Chicago, Ill.; and to others who made comments and suggestions in reviewing the final drafts of the study.

Section I

INTRODUCTION

THE PROBLEM

Problems in planning school facilities are, at best, complex. They exist to some degree in virtually every school district in this country, but in metropolitan central cities (see p. 3) they are becoming increasingly severe. These problems, their implications, and the effects they may have on immediate and long-range planning are of utmost importance not only to school planning officials but to all other officials responsible for planning the development of urban areas.

In describing changes which affect overall planning, Luther Gulick stated:

> Until very recently, this country of ours was primarily an agricultural nation with a small proportion of industry. Now it is primarily an industrial country with a small proportion of agriculture . . . Great cities which were once clearly defined are overriding their boundaries, spreading out over rural areas and small villages, so that in heavily industrial regions there is no clear demarcation separating one urban area from another. Our once self-contained small towns are no longer self-dependent. They must use many facilities such as distribution centers, financial institutions, communication systems which lie outside their borders. They are integral parts of their urban area.[1]

Gulick also pointed out that as the life of communities has changed, so have the lives of the individuals in those communities. Formerly, they were quite self-sufficient in that they met their own needs with their own skills. There is now a division of labor, or specialization, that creates an interdependence requiring people to live within easy access of one another. A new type of society is emerging which is based on technical services. As better service is obtained through specialization and greater production through utilization of power, machinery, and automation, a new pattern of close

[1] Comments from a speech delivered at a conference on *Metropolitan Area Problems*, held at Emory University, Atlanta, Ga., Apr. 10-12, 1961.

human association has been developed with a verbal, ideological, and physical communication system of high concentration and intermingled complexity. Thus, as cities have spread and towns have become interdependent, people have been moving closer to or into the urban centers.[2]

Many physical requirements are imposed as this trend becomes intensified and the urban centers expand. Among them are properly planned systems of transportation, modernization, residential housing, development of utilities, and the expansion of education and the schools. All are so completely interrelated and interdependent that the success of one is predicated on the other. Transportation is an indispensable link in the whole productive process. With increased use of automobiles and trucks, highways and streets of urban areas are essential to provide for the movement of people to and from their daily work, the movement of raw materials to the factories, and the distribution of the finished products. Railroads are still indispensable in those communities built upon rail communication.

The modernization and construction of factories and offices in the major cities has meant central management programing, scheduling, and the development of large plants with their subsidiaries. Automation and electronics have cut down inventories far below those previously thought necessary.

The development of housing in the central cities has resulted in drastic changes in planning and design. There has been increased need for utilities to supply power for the commercial, industrial, and residential expansion.

All of these activities are largely dependent upon the educational programs developed in each of the centers. The kind of urbanized civilization toward which this country is progressing can materialize only with a highly educated population and a society which equips people of particular capacities and aptitudes to progress in the use of their special abilities.

Public school systems in these areas reflect efforts to meet the rapidly developing needs. The effectiveness with which they may continue to do so means, however, that all of the local planning agencies must collaborate in determining goals and objectives, must integrate basic, long-range comprehensive planning, and must collaborate again in carrying these plans into effect.

If one takes an overview of the problems of school facilities in the metropolitan central cities, one sees that they have been devel-

[2] Ibid.

oping for a long period of time. During World War II few new buildings were constructed, while those in existence were deteriorating and, in some cases, becoming obsolete. Rapid population growth, shifts in population, special services that are required because of existing social and technological conditions, and other conditions referred to previously combine to further complicate school-facilities planning in the metropolitan central cities.

This study was undertaken to compile, identify, and describe characteristic problems of school-facilities planning in metropolitan central cities. The study was confined to the 50 largest cities in the United States, as shown by the population report from the census of 1960. These cities and their official 1960 census populations are as follows:

Rank at 1960 census	City	Population	Rank at 1960 census	City	Population
1	New York, N.Y.	7,781,984	26	Indianapolis, Ind.	476,258
2	Chicago, Ill.	3,550,404	27	Kansas City, Mo.	475,539
3	Los Angeles, Calif.	2,479,015	28	Columbus, Ohio	471,316
4	Philadelphia, Pa.	2,002,512	29	Phoenix, Ariz.	439,170
5	Detroit, Mich.	1,670,144	30	Newark, N.J.	405,220
6	Baltimore, Md.	939,024	31	Louisville, Ky.	390,639
7	Houston, Tex.	938,219	32	Portland, Oreg.	372,676
8	Cleveland, Ohio	876,050	33	Oakland, Calif.	367,548
9	Washington, D.C.	763,956	34	Fort Worth, Tex.	356,268
10	St. Louis, Mo.	750,026	35	Long Beach, Calif.	344,168
11	San Francisco, Calif.	742,855	36	Birmingham, Ala.	340,887
12	Milwaukee, Wis.	741,324	37	Oklahoma City, Okla.	324,253
13	Boston, Mass.	697,197	38	Rochester, N.Y.	318,611
14	Dallas, Tex.	679,684	39	Toledo, Ohio	318,003
15	New Orleans, La.	627,525	40	St. Paul, Minn.	313,411
16	Pittsburgh, Pa.	604,332	41	Norfolk, Va.	305,872
17	San Antonio, Tex.	587,718	42	Omaha, Nebr.	301,598
18	San Diego, Calif.	573,224	43	Honolulu, Hawaii	294,194
19	Seattle, Wash.	557,087	44	Miami, Fla.	291,688
20	Buffalo, N.Y.	532,759	45	Akron, Ohio	290,351
21	Cincinnati, Ohio	502,550	46	El Paso, Tex.	276,687
22	Memphis, Tenn.	497,524	47	Jersey City, N.J.	276,101
23	Denver, Colo.	493,887	48	Tampa, Fla.	274,970
24	Atlanta, Ga.	487,455	49	Dayton, Ohio	262,332
25	Minneapolis, Minn.	482,872	50	Tulsa, Okla.	261,685

PURPOSE OF THE STUDY

Although this study has been limited to an investigation of the school-facilities planning problems in metropolitan central cities, it is readily evident that many and varying degrees of the planning problems exist in every community. It is also evident that the planning of school facilities is but one important aspect of both the immediate and long-range planning processes in any city, area, or region, and that this aspect must be properly coordinated within the total scheme. For example, complete cooperation between

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school officials and urban renewal planners is imperative if a proposed renewal project and the school serving the area affected are to succeed. The identification and description, therefore, of the problems of school-facilities planning in this study will, it is hoped, provide insights for better and more thorough community development.

In the pursuit of this investigation, it was found that certain school-facilities planning problems were evident in some cities but did not necessarily exist in others. For example, school officials interviewed in two of the cities indicated that, because there had been no urban renewal projects undertaken in either city, neither had encountered any problems of planning attributable to this particular activity. Should either of these cities eventually undertake a renewal project, however, the findings of this study may well aid the planners of both that project and of school facilities in anticipating and resolving potential problems.

PROCEDURES OF THE STUDY

As a first step in this study, school planning officials representing 13 metropolitan central city school systems met to discuss their facilities planning problems. Problems mentioned, regardless of their prevalence or degree of seriousness, were tentatively classified and grouped under nine major headings. These, in random order, were as follows:

1. Urban renewal
2. Expressway development
3. Zoning regulations
4. Building codes
5. Construction costs and financing
6. Educational program planning
7. Population movement
8. Site needs
9. Community relations

Each of these major areas was analyzed carefully in terms of its subproblems and its interrelatedness with the other major problem areas. On the basis of this discussion an interview guide (see p. 55) was constructed for use in personal interviews with school planning officials in the 50 cities in the study to determine their planning problems. Since the importance of the study lies mainly in its effort to identify as nearly as possible the variety of problems involved in this phase of the educational program and the relationship of school-facilities planning problems to the overall problems of metropolitan

central city planning, no attempt was made to place a numerical value on the responses.

In keeping with the intent of the study to compile, identify, and describe characteristic problems of school-facilities planning, no effort has been made to provide solutions to the problems. Occasional references may be made to situations which have been resolved, but these are mainly for the purpose of illustration. It is hoped that, eventually, depth studies of each of the problem areas can be made and solutions found which will either eliminate completely or at least minimize the particular problem.

In the meantime the problems enumerated in this study make it obvious that planning school facilities cannot be isolated from other aspects of urban planning. It is also a reminder that planning officials, including school officials themselves, may, because of their own particular interests, overlook or disregard the overall planning function.

Section II

THE METROPOLITAN CENTRAL CITY—AN OVERVIEW

POPULATION TRENDS

The story of population growth in the United States during the decade 1950–60 continued to be found in the trends associated with city growth. Statistics show that the population increase during that decade was 17.5 percent, of which 80 percent was accounted for by the Nation's metropolitan areas.[1]

Metropolitan central city areas have approximately 58.0 million inhabitants and their outlying areas another 54.9 million. In 1960 there were 212 Standard Metropolitan Statistical Areas in the United States; 204 of these had gained in population since the 1950 census, but only 8 such areas had lost population.[2]

The Bureau of the Budget has established and defined Standard Metropolitan Statistical Areas (SMSA's) as follows:

> One city with 50,000 or more inhabitants or two cities with contiguous boundaries and constituting, for general economic and social purposes, a single community with a combined population of at least 50,000, the smaller of which must have a population of at least 15,000.
>
> If two or more adjacent counties each have a city of 50,000 inhabitants or more or twin cities with a combined population of 50,000 or more and the cities are within 20 miles of each other (city limits to city limits), htey will be included in the same area unless there is definite evidence that the two cities are not economically and socially integrated.[3]

Trends in metropolitan growth and rates of change from 1950 to 1960 are illustrated in the accompanying table. It may be seen that in 1950 there were 89.3 million persons in SMSA's but by 1960 the number of persons in those areas had grown to 112.9 million—a growth of 26.4 percent. It is significant, however, that during the same period

[1] U.S. Department of Commerce, Bureau of the Census. Press release, June 30, 1960. p. 3.

[2] U.S. Department of Commerce, Bureau of the Census. *United States Census of Population 1960.* Washington: U.S. Government Printing Office, 1961. p. XXVII.

[3] Executive Office of the President, Bureau of the Budget. *Standard Metropolitan Statistical Areas.* U.S. Government Printing Office, 1961. p. 3.

the central cities increased by 5.6 million persons, or 10.7 percent, while the suburban areas surrounding the central cities expanded 48.6 percent. The pattern of increase varied considerably among the regions. The population in and outside metropolitan areas of the Northeast increased at about the same rate (13.0 and 13.5 percent, respectively), that of central cities decreased by 3.2 percent, and that of the suburban ring increased by 34.8 percent. In the north-central States the rate of increase in metropolitan areas was 23.5 percent, while that outside was 6.6 percent. Central cities increased by 4.3 percent and the suburban rings increased by 56.4 percent.

Population and Rate of Change of SMSA's, by Regions, for the United States, 1950 and 1950 [1]

Regions and component parts	1960	1950	Total change, 1950 to 1960	
			Number	Percent
United States				
In SMSA's	112,885,178	89,316,903	23,568,275	26.4
Central cities	58,004,234	52,385,642	5,618,592	10.7
Outside central cities	54,880,844	36,931,261	17,949,583	48.6
Outside SMSA's				7.1
Northeast				
In SMSA's	35,346,505	31,267,169	4,079,336	13.0
Central cities	17,321,731	17,895,694	−573,963	−3.2
Outside central cities	18,024,774	13,371,475	4,653,299	34.8
Outside SMSA's				13.6
North central				
In SMSA's	30,959,961	25,074,674	5,885,287	23.5
Central cities	16,510,746	15,836,656	674,090	4.3
Outside central cities	14,449,215	9,238,018	5,211,197	56.4
Outside SMSA's				6.6
South				
In SMSA's	26,447,396	19,417,751	7,029,644	36.2
Central cities	15,061,777	11,720,843	3,340,934	28.5
Outside central cities	11,385,618	7,696,908	3,688,710	47.9
Outside SMSA's				2.7
West				
In SMSA's	20,131,317	13,557,309	6,575,008	48.5
Central cities	9,110,080	6,932,449	2,177,631	31.4
Outside central cities	11,021,237	6,624,860	4,396,377	66.4
Outside SMSA's				19.0

[1] This table is adapted from pp. XXV and XXVI of the *United States Census of Population 1960*. U.S. Department of Commerce, Bureau of the Census. Washington: U.S. Government Printing Office, 1961.

The population of the SMSA's in the South, as shown in the table, increased at a rate 13 times as great as the population living outside such areas (36.2 percent v. 2.7 percent). The central cities in this region increased by 28.5 percent and that of the suburban ring increased by 47.9 percent. The highest rate of growth in SMSA's

during the 10-year period was in the western region. There, the population of the metropolitan areas increased by 19 percent. The rate of increase for central cities was 31.4 percent and that outside the central cities was 66.4 percent.

Population increased the most rapidly in the SMSA's of 500,000 to 1 million in size. In the five SMSA's with populations greater than 3 million, the central cities grew only 1 percent while the suburban rings increased 71 percent. However, in the smaller metropolitan areas the growth of the central city was greater than that of the outlying area: the rate of central city growth was 29 percent

Credit: Library, National Housing Center

Metropolitan central cities in the United States are losing large segments of their populations to suburban areas, many of which resemble the one shown above. The suburban dwellers often continue to work in the city and use its public services, but pay the bulk of their taxes elsewhere.

and that of the outlying areas 11 percent.[4] Much of the population growth in central cities is due to annexation of surrounding suburban territory; thus, of the 10.7 percent increase of population in central cities since 1950, 9.3 percent has been due to annexations. The smallest amount of change resulting from central city annexations occurred in metropolitan areas with populations of 3 million.[5]

[4] Ibid., p. XXVI.
[5] Ibid., p. XXVI.

SOCIOECONOMIC FACTORS

Migration of persons in and out of central cities as well as migration within these cities has a profound influence on the character of the city. Amos H. Hawley [6] reports that in Michigan, in the Detroit and Flint metropolitan areas, only 6 percent of the household heads were born and raised in those areas. Approximately 20 percent migrated to the suburbs from outstate Michigan, but of especial significance is the fact that nearly 75 percent of the present suburban inhabitants have migrated directly to the suburban area from the central city. Also, it can be observed that when the central city migrants were replaced, it was usually by migrants from farms and small towns, and, as a rule, the socioeconomic and educational levels of the latter were somewhat lower than those of the people they replaced.

Hawley [7] further stated,

> Now it is well known that the suburban areas attract to themselves people who, by contrast with the residents of the central city, are relatively young, well educated, in the upper income categories, and, of no small importance, are members of households made up of husband, wife, and children. The differences are of the order of 5 to 6 years in median age, 1 to 2 years of school completed, $1,000 in median annual income, and 50 percent more incomplete families.
>
> It is interesting to note that while the suburbs are attracting people who are like those already residing there and who differ significantly from central city residents, the people who move into central cities from suburbs exhibit a corresponding selectivity: they are similar to central city residents and noticeably different from suburban residents. They are not, as some people have wishfully thought, representative of upper social-economic levels. Persons who leave the suburbs for central cities are rather persons of modest incomes, with on the average less than a high school education, and they are employed for the most part in clerical and domestic service occupations. Their family composition is their most distinctive feature—they are single persons, childless couples or couples whose children have left the nest, and often members of broken families.

The significance of these migration trends is that central city areas are being changed socially, economically, and culturally.

There are various aspects within the complex of the metropolitan area which affect the economic lives of both the central city and its suburban ring. The demands upon the central city to provide many of the amenities of city life desired by those living in the suburbs is quite apparent. The operating costs of the city governments are

[6] Amos H. Hawley. "The Challenge of Population Change," *Michigan Municipal Review*, January 1961.

[7] Ibid.

increased by the number of people living around the cities. Their use of the city's streets, commercial districts, and recreational and cultural facilities add to the costs of police and fire protection, street maintenance, and other general maintenance, although general maintenance may tend to diminish somewhat as the suburban cities begin to provide their own facilities.

Industry and business constitute an important segment of the metropolitan central city; thus, trends in their activities influence much of what happens in the entire metropolitan area. Faced with new technology, the need for new equipment, the need for more space for employee and customer parking, and required extra space for organization of work on one floor, many industries have been forced to build modern new plants on large sites outside the city limits rather than remain on the old central city site. When industry moves away from a central city, the city not only fails to get the value of the new plant, but also loses the value of the old plant and of auxiliary businesses. Furthermore, an automated industry or business which moves to the suburbs often leaves behind those citizens who are the least able or the least willing to be retrained and moved with the business.

Another detrimental effect of this change is that the central city is left with a smaller tax base, on which it must carry a progressively larger tax load. Persons who have already migrated to the suburbs but who retain property in the central city area become more concerned with taxes than with needed central city services such as libraries, health facilities, police and fire protection, and schools. Ordinarily, during this very period of decreasing tax base, more elaborate and more expensive services are required because of inherent metropolitan problems. For example, the assessed valuation in Detroit, Mich., has decreased approximately $200 million in the past 2 years, while both the school enrollments and needed student services have increased.[8]

Technology has created a trend which affects central city areas by decreasing the demand for skilled and semiskilled labor. At the same time, more and more youths are arriving at an employable age and are ready for the nonexistent unskilled jobs. If these youths and other persons with little training are to become employable, more specialized training and guidance must be available for

[8] *Federal Grants to States for Elementary and Secondary Schools* (hearings before the House of Representatives General Subcommittee on Education). Washington: U.S. Government Printing Office, 1962.

them, and such training will necessitate correspondingly more school facilities in the already heavily tax-burdened metropolitan central city.

LAND USE AND CONTROLS

The corporate boundaries of many large metropolitan central cities are quite specifically established and limited. Therefore, land development standards in those areas must be well defined, understood, and enforced. Comprehensive land-use plans are generally implemented by zoning, subdivision controls, and official mapping. Land-use controls must be sensitive to social and economic needs of a community if they are to be effective. Occasionally, incongruous situations occur, since zoning is a negative way of inducing desired land use. A more positive approach for governing land use is through legislative acts, real estate tax exemptions, long-term loans with low interest rates, and urban renewal grants. However, at present, zoning still is one of the most widely used methods of regulating land use even though the zoning regulations of one political or municipal area may adversely affect a contiguous area. To illustrate this point, one may cite Milwaukee County, where there are 19 municipalities that can establish zoning regulations without determining the effects of their regulations on nearby municipalities.[9] Zoning, unfortunately, has another weakness in some instances in that some politically appointed citizens, who have little technical knowledge, use it in the absence of prior planning. Under such circumstances, zoning cannot provide the kind of protection for which it was intended.

A number of cities have building and housing codes that affect public as well as private establishments. Generally, these codes tend to regulate such things as lighting, ventilation, sanitation, structural design, fire safety, and even occupancy. However, if these codes are based on detailed specifications rather than on performance standards, they may be more detrimental than beneficial, especially as new materials and construction practices develop. The fact that State and local or city codes are sometimes conflicting in nature also results in confusion to persons concerned with buildings and construction.

Both urban renewal and expressway development activities greatly affect land-use activities of a central city. These activities may

[9] Charles Ball. "Milwaukee Land Use and Zoning." *Traffic Quarterly*, October 1959.

cause heavy expenditures by the local government, although both are generally and largely subsidized by the State and/or Federal governments. They may displace persons and cause population shifts, although such changes might occur in any event with the obsolescence of housing and for other reasons. They may cause removal of taxable property from the city tax rolls, at least temporarily in the case of the urban renewal developments. This loss may be partially offset by a credit in lieu of taxes until the project land is cleared and ready for development. Many of the dispossessed residents and business establishments move elsewhere within the corporate limits and eventually replace or often improve property values there. Land adjacent to urban renewal and expressway development projects generally rises in value when the improvements have been made. Such projects often generate a need for school facilities, however, *before* increased valuations are placed on the tax rolls.

Both urban renewal and expressway development are primarily instigated by the Federal Government through monetary incentives and, if coordinated, may be effective means of rejuvenating the Nation's central cities. Urban renewal legislation in a modified form started as early as 1937 with interest in public housing and slum clearance. Expressway development in cities began on a large scale as part of the Federal Highway Act of 1956. Both have been influential forces in the redevelopment and improvement of the Nation's metropolitan central city areas.

City expressways are the skeleton of a city and the framework around which the city lives and grows. Intelligently located expressways can invigorate the economic, social, and cultural life of a city, can be coordinated with slum clearance, can aid in solving traffic problems, and can save residential areas by screening them from commercial or industrial areas. Conversely, poorly located ones may become a "Chinese wall," dividing neighborhoods and disrupting established patterns.

There is a far-reaching good that can come from federally financed urban renewal and highway projects. In such projects, a comprehensive plan of the community should be drawn up which includes plans for urban renewal projects, schools, recreation, public facilities, utilities, and urban transportation systems. The residential land-use plan should show densities of residential development, the price of specific types of houses and apartments, and the areas in which they are to be developed. William H. Claire says that a comprehensive housing plan is important to urban renewal and urban transportation because--

- A plan for relocation of site occupants displaced by urban renewal and other governmental action can be more intelligently formulated and more effectively carried out.
- Selection of the type of residential land reuse in an urban renewal area can be more accurately made in relation to adjacent areas.
- Builders taking advantage of FHA mortgage insurance can do so with assurance of a sound investment.
- Size and spacing of arterial highway routes can be planned for a predetermined traffic load.
- Rapid mass-transit routes can be planned and installed to serve residential areas of known densities.
- Population densities can be planned to help justify the cost of rapid mass transit.[10]

In the past the metropolitan central city dominated the surrounding area or region. In several instances it still does, but the trend is for the outlying areas to become more influential. Therefore, many forces are needed to blend the city and its outlying areas together since they are interdependent. It would seem that if the problems of metropolitan areas are to be effectively solved, a philosophy of government must persist that allows complete and objective overall planning.

METROPOLITAN PLANNING

In most metropolitan areas, no regional governmental structure exists to undertake areawide planning. If effective metropolitan planning is to take place, there must be close cooperation and coordination among local, State, and Federal governmental levels. William L. Slayton,[11] Commissioner of the Urban Renewal Agency, indicates that incentives for activities such as urban renewal might well come under three basic categories:

- State enabling legislation
- State financial and technical aid
- Granting of authority for a municipality to undertake urban renewal projects.

Robert Y. Adams[12] points out that a community is affected by fragmented local governments, whose responsibility covers such things as water supply, traffic, transportation, waste disposal, schools, and so forth. He indicates that these problems cannot be

[10] William H. Claire. "Urban Renewal and Transportation," *Traffic Quarterly*, July 1959. pp. 414-422.

[11] William L. Slayton. "Colleges, Universities, and Urban Renewal," *Higher Education*. Washington: U.S. Government Printing Office, March 1962.

[12] Robert Y. Adams. "Urban Area Problems and Industrial Expansion," *Proceedings of the Governor's Conference on Urban Area Problems*, Mar. 25-27, 1958. Bloomington, Ind.: Indiana University. (Mimeographed report.)

solved unless the responsibility for solving them is clearly and concisely established in an individual, a council, or a commission having the authority to act and being directly responsible to voters.

At an Indiana Governor's conference on urban area problems, the following topics were considered: (1) the core problems, (2) the problems of the established city, (3) the problems of the growth areas, and (4) problems of the suburban and urban areas. The problems of the established city and of the growth area are of extreme importance because they indicate observable trends. They are listed below.

(a) Problems of the established city
- Deterioration of neighborhoods (lack of conservation procedures)
- Obsolete facilities—parks, schools, business areas
- Traffic congestion and poor circulation
- Flood control and drainage
- Finance
- Loss of leadership—citizens, governmental, and political

(b) Problems of the growth area
- Inadequate planning
- Difficulty of comprehensive planning
- Density standards—minimum and maximum
- Land use—industrial, shopping
- Annexation policy—keyed to services and development
- Financing services—private and public
- School and recreation area-site problems
- Traffic circulation and expressways
- Sanitation
- Water supply
- Drainage [12]

[12] Ibid., pp. 33–34.

Section III

SCHOOL-FACILITIES PLANNING PROBLEMS

URBAN RENEWAL PROJECTS

"Urban renewal" is the term used to describe the diversified efforts of localities, often carried out with the financial assistance of the Federal Government, to eliminate and prevent slums and blight. The Federal Government's first comprehensive effort to provide assistance for the clearance and redevelopment of slums was authorized by the Housing Act of 1949. Title I of the act set up funds for loans and grants to local redevelopment authorities for programs of slum clearance and redevelopment. M. Carter McFarland indicated that this particular piece of legislation rested on two basic assumptions:

> The private redevelopment of slum land is impossible on a large scale without the assembly, by use of the public powers of eminent domain, of large enough tracts to permit proper planning and an economical scale of redevelopment operations.
>
> The cost of slum acquisition and demolition will exceed the price at which slum land must be sold to make redevelopment possible. The cost of assembling, clearing, and "writing down" slum land on the scale needed is so great that Federal financial support in the form of loans and grants is necessary.[1]

It was found, during the period 1949–54, that clearing residential slums was but one aspect of urban rejuvenation. The Housing Act of 1954, therefore, was expanded to authorize Federal financial assistance for the renewal of blighted areas that are not deteriorated to a degree warranting total clearance. Today, federally assisted projects may involve—

- Acquiring and clearing a slum or blighted area—either residential or nonresidential—and disposing of the land for redevelopment in accordance with planned uses

[1] M. Carter McFarland. *The Challenge of Urban Renewal.* Technical Bulletin 34. Washington: Urban Land Institute, 1958, p. 7.

- Rehabilitation and conservation of structures in such an area by property owners, accompanied by improvement of community facilities by the local government
- Any combination of the above.

In addition to these project activities, some localities undertake their own citywide programs aimed at preventing urban blight.

Urban renewal is a local program locally conceived, planned, and executed. It is a concerted effort by a locality, using public and private resources, to correct and/or prevent urban blight and decay and to set in motion long-range planned development.

Renewal projects are planned and executed by a local public agency which may be a separate public agency, a local housing authority, or a department of a city government. Federal assistance is available when local resources alone are not sufficient. To qualify for Federal assistance for an urban project, a locality must adopt and have properly certified a "workable program for community improvement." This is the community's survey of its total problem and a plan for effective action. The community commits itself to the attainment within a reasonable time of the following seven objectives:

- Adequate local codes and ordinances, effectively enforced
- A comprehensive plan for development of the community
- Analysis of blighted neighborhoods to determine treatment needed
- Adequate administrative organizations to carry out urban renewal programs
- Ability to meet financial requirements
- Responsibility for adequately rehousing families displaced by urban renewal and other governmental activities
- Citizen participation

The Urban Renewal Administration, one of the constituents of the Housing and Home Finance Agency, supervises the program of Federal assistance to localities. The chief points of contact between the Urban Renewal Administration and cities wishing to participate in the program are the seven regional offices of the Housing and Home Finance Agency. (See p. 63.)

Urban Renewal and the Schools

In metropolitan centers slums and other blighted areas, overcrowding and sudden or drastic shifts in population often directly affect planning of school facilities. By the same token, the removal of blighted areas or other unsatisfactory conditions and the

relief of overcrowding through urban renewal projects also affect school planning in a variety of ways.

Specific problem areas of concern reported by the school officials are those involving (1) school costs and financing, (2) immediate and long-range building and educational program planning, (3) effects of population shifts, (4) school-site utilization and selection, (5) zoning, and (6) authority and control.

School Costs and Financing

While urban renewal is often thought of as a program to remove slums and other blighted areas, it may well also be a condition to economic survival of the city. As blight spreads, middle- and higher-income families avoid it by moving to the suburbs. Industry and commerce follow the flight, and a downward spiral of the economy results, with an attendant reduction of tax collections in the central area. A business located in a blight area will tend to adapt itself to that environment or move elsewhere. Good residential rental units are equally affected by neighborhood deterioration. The consequent need for city services to combat crime, fire, disease, and juvenile delinquency increases as the blight spreads. Yet the city's financial ability to meet these increased demands may be curtailed by the very cause that creates them. By definition then, the formalized urban renewal programs are designed to eliminate central city blight and obsolescence which are primarily residential, to develop proper and economic uses of land, to increase tax revenues, to reduce the cost of city services, to establish good neighborhoods and adequate housing, and to arrest the flight of housing and business to the suburbs.[2]

The effects of the demands for extra city services before and during the renewal development on school-facilities planning are often compounded. The removal of property from the tax rolls until the completion and assessment of a renewal area may affect the financing of the school-building construction which the project itself has made necessary, particularly where the bonded indebtedness statutes are in effect. A problem, as indicated by one-third of the school officials, was that, even though the removal of the taxable property was temporary, the consequent lowering of the city's financial ability curtailed school construction at the time when it was most needed.

[2] Ibid.

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The time lag between the initial planning stages of a school building program and its completion date may be as great as 3 years. A serious problem in this particular area, as indicated by nearly one-half of the school planners, is the necessity to replace school buildings and sites which are no longer needed in renewal areas but are needed in areas into which displaced families have moved. Factors involved are the lack of availability of adequate sites and lack of ready funds to purchase new sites and/or construct new buildings. In theory at least, these problems would have been anticipated and resolutions made for them as a part of the initial survey and project request. However, in a number of instances, problems in building and in planning educational programs arose because of delays in the redevelopment schedules.

While such financial problems have occasionally disrupted or delayed the school construction program in the redevelopment area, Federal urban renewal legislation provides that the cost of locally financed school buildings which directly serve redeveloped areas may be treated as part of the locality's share of the cost of the project. As a general rule, the Federal Government will pay two-thirds of the cost of the overall project, including the allowable cost of school construction serving the redevelopment area. Since these funds are paid to the city sponsoring the project, school planners, particularly those whose school districts are fiscally independent, still must obtain needed funds for school construction through regular channels and within existing legal limitations.

Problems of Planning

The importance of the schools in the redevelopment of urban areas was recognized by William L. Slayton, Commissioner of the Urban Renewal Agency, when he said:

> The role of the schools in the success of new neighborhoods is dependent upon their ability to attract families who already have a wide range of housing choices. Middle and upper income families have in recent years shown a marked preference for housing in the suburbs. There are many reasons for this, but one persistent factor is the belief that suburbs offer opportunities for better education for their children. It means that the central city schools, with a tremendous advantage in fixed plant, with going administrative and teaching staffs, and with all the cultural advantages of the city, are unable to provide the educational opportunities available in the suburban areas. For the urban renewal program, the success of both redevelopment and rehabilitation appears to be intimately

related to the availability of superior educational programs attuned to the cultural pattern of the new neighborhoods that are being created.[3]

It is probably this recognition of the values of the educational program that leads to the success of the urban renewal projects generally. Slayton further stressed the importance of the educational program to the success of the redevelopment projects when he said:

> The attraction of renewal areas cannot be effective without a highly regarded school program. . . . The failure to provide good new schools on a timely basis in many other renewal areas is no less instructive in its impact. . . . As Dr. Conant has pointed out, the movement of the middle class to the suburb has resulted in cultural and intellectual segregation in society and in the school systems. This pattern will not be disturbed without an effort to provide equally acceptable alternatives within the city. The essential step is recognition of the special problems of schools in redevelopment areas where important changes in the population are taking place. The schools in these areas must be organized and equipped to carry out their mission in a radically changed environment. The objective is to aline the school program to support the efforts to redevelop slum areas. Only in this way can the central city survive as a balanced community.[4]

In terms of cooperative planning between urban renewal officials and school-facilities officials, a vast majority of the latter indicated that there were few problems. In several instances, school officials served either as regular or advisory members of city planning commissions. They were thus able to keep informed on the planning needs and proposals. One area of serious concern reported by the school officials, however, was that of unpredictable demands for school facilities arising from uncertainty about the time of completion of redevelopment projects. Because of complexities of renewal and the resulting inability of the renewal planners and developers to adhere to projected time schedules and completion dates, school officials were occasionally hard pressed to provide adequate school plant facilities when and as needed. In several instances, modernization or rehabilitation of school buildings had to be delayed, pending completion of the renewal project and in anticipation of the influx of families to that area. In other cases, additional classrooms were provided, but remained idle for periods of time because of delays in scheduling of the redevelopment projects.

[3] William L. Slayton. "The Influence of Urban Renewal on Education," *School Life*. Washington: U.S. Government Printing Office, June 1962.
[4] Ibid., p. 11.

Problems of Population Shifts

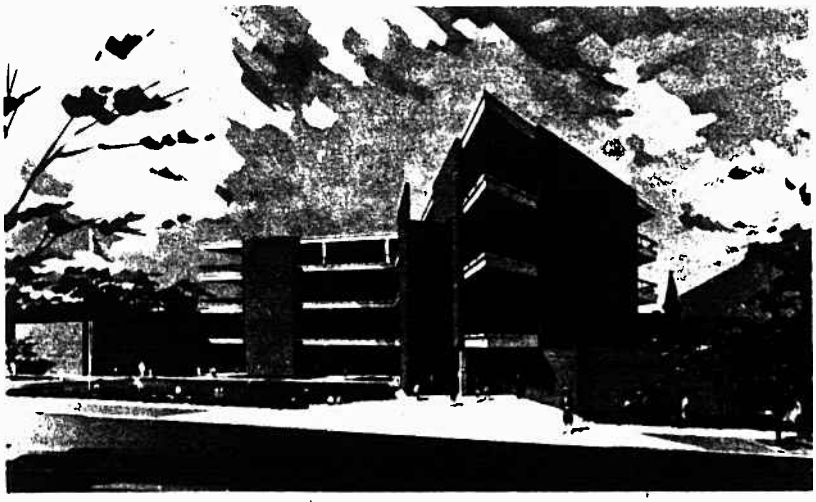
Two-thirds of the school officials reported that shifts of population attributable to urban renewal projects in the cities caused problems in planning programs and facilities. A difficulty stemmed from the fact that the officials were not always able to anticipate the areas into which the displaced persons would move. The result was a disproportionate distribution of pupils in the various buildings affected. Some buildings were seriously overcrowded while others had vacant rooms. This then necessitated changes in school attendance centers and the consequent disruption of the neighborhood schools. Another result reported in several instances where it was either impossible or impractical to make these changes was that the school had to adopt a program of double sessions in the buildings available, until other arrangements could be made.

Another facet of the same problem concerned the school attendance areas in which the displaced persons relocated. In a number of situations it was reported to be necessary to expand existing facilities on extremely limited sites to accommodate those who vacated the renewal project areas. In others it was necessary to adjust pupil attendance areas or districts to fully utilize the buildings available. The psychological aspects of these changes on many of the patrons and pupils involved were quite serious.

In the cases where renewal projects were large enough or occupied a sufficiently large area to warrant locating a school within the redevelopment areas, it has been possible to acquire sites at the raw land value. This has been helpful to the districts concerned.

School-Site Problems

Problems involving school sites that were affected by urban renewal projects were reported by one-half of the school officials contacted. Obtaining land for school sites in already congested areas is not only expensive but it usually involves court procedures and serious delays. In several instances, the school officials stated that renewal projects had been planned in areas adjoining or close to but not actually encompassing existing school sites. The consequent problems of providing school facilities to accommodate anticipated increases in enrollments after the completion of renewal projects were serious.



Credit: Chicago Public Schools

The unusual architectural design of this new elementary school in Chicago was in large part a response to the problem of building a school that would accommodate nearly 1,000 pupils on a site of less than 1 acre. Inside, the classrooms are wedged-shaped and without fixed doors. Each floor has its own central commons area.

Zoning Problems

Approximately one-third of the respondents indicated that zoning regulations had caused problems in school-facilities planning. These problems were primarily due to the inconsistency of the zoning regulations, which permit potential degeneration of certain areas of the city. In other words, regulations pertaining to land-use multi-dwelling units were such that in these instances there were either few restrictions or the restrictions were not enforced. As a result, the crowded school facilities already existing in those areas were in most instances beset by additional enrollments.

Authority and Control

There were relatively few problems resulting from the matter of which agency—the school planners or those responsible for the renewal projects—had authority and jurisdiction over the redevelopment planning. The rules and regulations by which the urban renewal projects are set up are specific and clear cut. They seem

to be quite well understood by the various agencies concerned. It was evident that the school officials were eager to have these improvements and to work with the planners responsible for them. Their main concern was that the planning be complete and cooperative.

EXPRESSWAY DEVELOPMENT

The planning, location, building, and operation of highways in the United States is and always has been primarily a State and local affair. For the most part, early roads followed trails that originated in frontier history. The courses of most main highways and central city streets were fixed before the advent of the motor vehicle. As traffic steadily mounted after World War I, many of them were improved by surfacing, widening, and minor relocation. Many main urban streets were forced to carry through traffic as well as local traffic. In the built-up urban areas residential, commercial, industrial, educational, and recreational planning were all done in relation to the existing street pattern.

Federal aid to the States for highways began modestly in 1916, and has grown steadily ever since. Some 880,000 of the 3.6 million miles of roads and streets in the United States are now included in the Federal-aid primary and secondary systems. Of this amount, 41,000 miles are in urban areas. These are all eligible for improvement with Federal aid, if the State shares the cost of improvement equally with the Federal Government. Beginning in 1956 the Federal Government has undertaken, with the States, an accelerated program to complete the Interstate Highway System, a 41,000-mile network of urban and rural freeways for which the Federal Government is paying 90 percent of the cost. In these cooperative Federal-State programs, the States choose the systems of routes for improvement, plan the projects to be built each year, and award and supervise the construction contracts, all subject to review and approval of the U.S. Bureau of Public Roads.[8]

Necessarily, some four-fifths of the Interstate System is being built on new locations. In urban areas, existing city streets are often too narrow and too built up to accommodate modern freeway construction. Often, new rights-of-way must be found, wide enough for the needed traffic lanes and for interchanges and sometimes frontage roads as well. Highway planners endeavor to disrupt the city as

[8] *America's Lifelines. Federal Aid for Highways*, U.S. Department of Commerce, Bureau of Public Roads. Washington: U.S. Government Printing Office, 1962.

little as possible, but there is rarely a satisfactory solution that is simple and inexpensive. The problems of freeways have led most States to facilitiate the acquisition of land and of access control through law or constitutional provisions.

The impact of highway planning on urban areas is far reaching. The following facts help to put the urban transportation problem in perspective: Of the total travel of all passengers in 1960, roughly 390 billion passenger-miles were intracity. Of this total, 90 percent was by automobile, 8 percent by transit, and 2 percent by commuter trains. In terms of passenger-miles, this breaks down to 350 billion for automobiles, 31.2 billion for transit, and 7.8 billion for commuter trains. If transit riding does not decline further and if the ratio of use among these three modes of travel remains the same, then in 1980 the passenger-mile figures in urban areas will be 702 billion by automobile, 62.4 billion by transit, and 15.6 billion by commuter trains.[6]

To encourage an interstate highway system, the Federal Government and the separate States agreed in 1947 on the location of such roads, funds were appropriated on a 50–50-matching basis, but less than 1 percent of the proposed system was built. Because of increasing numbers of automobile registrations and the resultant pressures of highway use, plans were made and approved by the Congress in 1956 for the building of 41,000 miles of interstate highway for which the Federal Government would pay nine-tenths of the cost. While the Federal aid program is a cooperative one, the States choose the systems of routes for development, select and plan the individual projects to be built each year, and award and supervise the construction contracts. A somewhat disruptive feature of this program is that most of these prospective roads will be new. Seventy-two percent of the mileage, both in urban and rural areas, will be in completely new locations.[7] Land is needed for 41,000 miles of proposed roadway having rights-of-way as wide as 300 feet. Complex interchanges, ramps, and frontage roads alone will require additional quantities of land. Some of these highways will traverse lands that former highways circumvented because of the expense and engineering difficulties. This, in turn, has created land acquisition problems that cannot be bypassed.[8] Emphasis on this program has caused the State legislatures to facilitate the acquisition of land through controlled-access laws or constitutional provisions.

[6] Ibid.
[7] Ibid.
[8] *Land Acquisition and Economic Impact Studies 1958.* Washington: Highway Research Board. 1958.

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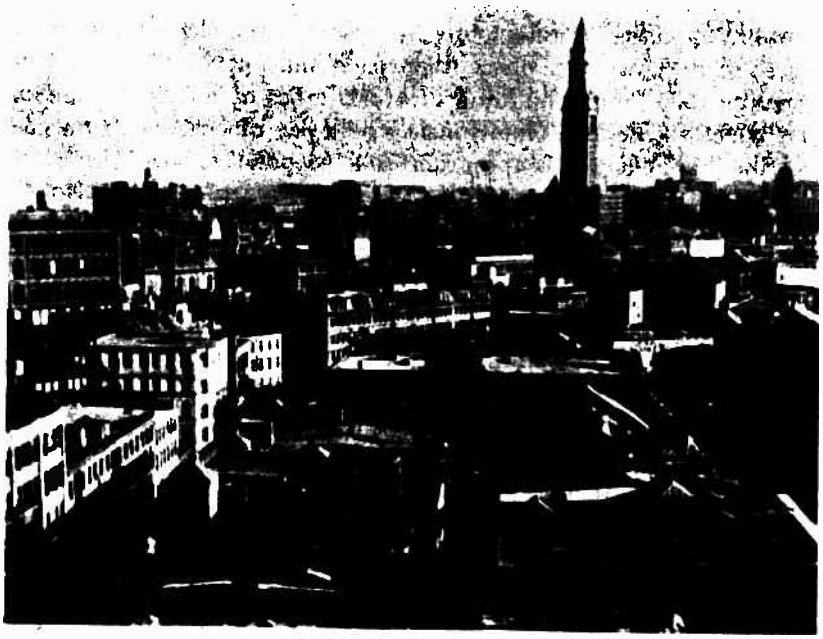
Rex M. Whitton, Federal Highway Administrator for the Bureau of Public Roads, U.S. Department of Commerce, has said:

> It has also been estimated that by 1980 about 16,000 miles of freeways will be required to serve adequately the urban traffic within the continually expanding urban areas. These same experts estimate that as of 1980 the expansion of our urban area will be of such proportions that about 9,600 miles of the Interstate System will be urban. There are now about 800 miles of existing urban freeways other than those on the Interstate System. If the estimates of the experts are correct, and certainly in the light of present knowledge they appear reasonable, this means that we will need in addition to the existing freeways and those that are to be constructed under the Interstate program, some 5,600 miles of further urban freeway development by 1980.*

These improved facilities are therefore essential in the urban areas, and they will necessitate cooperative planning by all agencies affected by the changes to be made. As a matter of fact, the Federal Aid Highway Act of 1962 will have a definite impact

* Remarks at the *Conference on the Impact of Urbanization on Education*. U.S. Office of Education, Washington, D.C., May 28, 1962.



Credit: U.S. Department of Commerce, Bureau of Public Roads

This view of a section of Boston has now passed into history; in its place stands the John R. Fitzgerald Highway, a major intracity expressway, shown on the right.

on urban planning. In addition to providing increasing Federal aid and assistance, the act requires that the 1½-percent funds be wholly used for planning and research. Prior to this act, Federal legislation since 1934 allowed 1½ percent of the funds apportioned to be used for planning and research purposes. After July 1, 1965, no program for Federal Aid Highway projects in any urban area of more than 50,000 population will be approved by the Secretary of Commerce unless such projects are based on a continuing, comprehensive, transportation-planning process carried on cooperatively by States and local communities.

The school officials interviewed readily recognized the value and importance of expressway systems to the cities generally and to their own school districts as well. They were also well aware of the facets involved in planning expressways in and through the cities and of the need for additional land to expand existing roadways or to establish new routes and interchanges for the expressways. There were, however, problem areas identified in

Credit: U.S. Department of Commerce, Bureau of Public Roads

The razing of houses, the relocation of people, and the changing land values that accompany the building of an urban expressway all affect school-facilities planning.

connection with this which affect school-facilities planning. Among them were problems of (1) costs and financing, (2) planning, and (3) authority and control.

Costs and Financing

Nearly one-half of the school officials interviewed indicated that their boards of education were inconvenienced by delays in payment for school-owned land which was taken for expressway development. Many of the delays were caused by local or regional political, economic, or public-pressure forces. The delays in settling claims made the budgeting of capital outlays for the school district uncertain, particularly where it was necessary to replace or expand the existing site and program immediately.

Eighty-seven percent of the respondents said that the loss of revenue incurred by the removal of property from the tax rolls for expressway development was a problem. This, too, affected the amounts of money available to the school district, a particular hardship in districts where it was necessary to replace immediately the facilities affected by condemnation proceedings. In most instances, the loss was reported as only temporary or as lasting only until the new routes had been established and the lands adjacent to the highways developed or redeveloped, assessed, and placed on the tax rolls.

Studies by highway authorities show that the latter situation is relatively common. Many of the displaced individuals and businesses move to other locations in the city and improve their property. Land use adjacent to expressways frequently changes, and the land usually rises in value. While the net financial effect after the completion of the expressway development is beneficial, many of the school-facilities needs occur during the interim.

Another problem of cost and financing is the replacement of school sites and buildings which have been taken for highway use. Replacement costs of appropriate school sites are extremely high, and usually involve the delays, costs, and other inconveniences of condemnation proceedings. This obviously is not a unique problem of school planning officials. It is equally true for highway, urban renewal, and other public building programs. A major difference, however, is that the costs and financing of the school facilities have to be done primarily on a local basis. It also suggests that complete communication, cooperation, and understanding among the various agencies are essential for the best interests of all.

On the positive side of this particular situation, the forces of land acquisition for highway development have given several school districts the necessary impetus to abandon some of their old and obsolete school buildings.

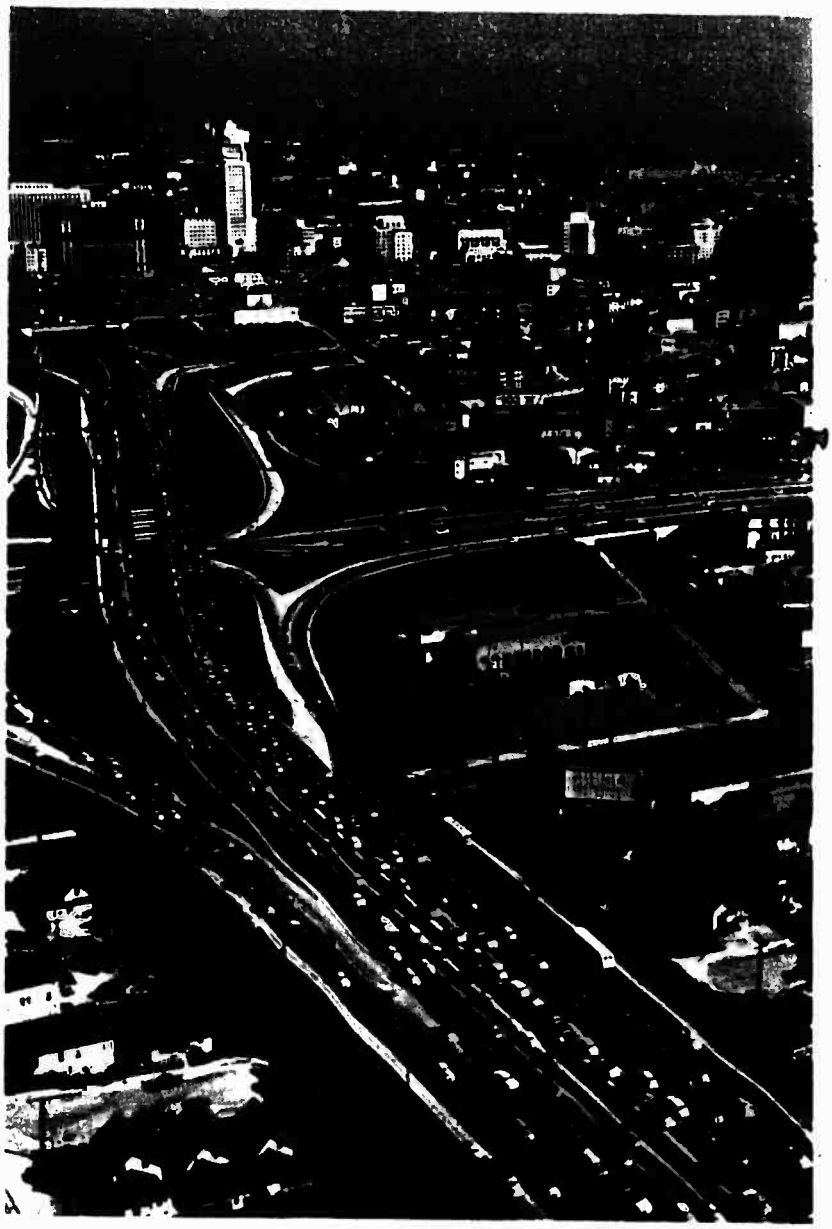
Planning

There were a number of problems concerned with both immediate and long-range planning of school facilities. In order to provide suitable facilities most efficiently, programs of maintenance, operation, rehabilitation, remodeling, and new construction must be planned well ahead of actual needs. As indicated in a previous section, the timelag between the initial planning stages of a school-building construction program and its completion date may be as great as 3 years. Therefore, it is essential that plans for proposed highway routes be made known as soon as possible. Approximately one-half of the school officials indicated that they had encountered difficulties in their planning because they were not sufficiently informed on expressway development in their districts.

Other types of school-facilities planning problems arising from expressway development projects, as indicated by the school officials, were those pertaining to pupil-traffic and transportation patterns, cooperative planning with city and State expressway officials, and psychological aspects of dividing established school service, or attendance, districts.

School attendance areas or districts are determined on the basis of a combination of factors: the numbers of pupils to be served, the types of neighborhoods, and natural or manmade features such as watercourses, topography, highway, bridges, and railroad rights-of-way. Insofar as possible, efforts are made to avoid hazardous pupil traffic patterns to and from school. Once the districts are established, educational programs, buildings, and faculty and staff needs are then planned, and become a vital part of the coordinated citywide school plan. Neighborhoods are often identified by their school attendance districts, and their loyalties are established through local parent-teacher associations and other school-related activities.

While highway planners generally try to locate urban freeways along natural or existing dividing lines, they have often bisected many school district attendance centers. Sixty percent of the school officials indicated that they had encountered school-facilities planning problems as a result of this development. The problems were usually based on the single attendance district rather than the entire city school district.



Credit: U.S. Department of Commerce, Bureau of Public Roads

Ironically, urban expressways often break up established neighborhoods while simultaneously interconnecting various parts of the city. Notice, in the foreground, how this Los Angeles freeway has broken up a residential section. Sometimes, as a result, the number of pupils attending existing schools is drastically altered.

The cooperative, comprehensive, planning processes that are already completed, underway, or proposed in most of the large cities should eventually tend to rectify many of these problems. When all affected elements of State, city, and county governments work together in a comprehensive study of land use, population, economic and social factors, and school, highway, and housing developments, then long-range plans can be more readily coordinated.

Authority and Control

Because the planners of schools and the planners of expressways both function in the public interest and have rights of eminent domain, questions of authority and control often arise between the two groups. Recognizing the emphasis placed on the interstate system of highways by the 1956 Federal-Aid Highway Act, the States now have controlled-access laws or constitutional provisions relating to interstate highways. The general rule is that public property may not be condemned for other public use unless the legislature has authorized, either expressly or by necessary implication, the acquisition of such property. With this superior authority to acquire land for rights-of-way, local questions still arise among the various planning groups. The consensus of the school officials was that they recognize the values of and necessity for expressway development in their cities and, in fact, encourage such development. They felt that, with coordination and cooperative planning among the various agencies, they themselves can be more specific in their school planning.

ZONING REGULATIONS AND HOUSING CODES

Land-use patterns in metropolitan central cities are fluid, and change constantly. The whole urban complex undergoes periodic changes in size and shape. New neighborhoods evolve, the use of buildings changes, and many are torn down to make the same space available for other purposes. In one particular city a factory building is being completely remodeled and rehabilitated, and will serve as one of the neighborhood schools in the district. In another city an obsolete school building has been sold, and is being converted into an assembly plant and warehouse. These changes occur also in residential areas, where the old mansion-type single-family dwellings have been converted into apartments or rooming-

houses, studios, or small offices. Economic and social values and qualities of the neighborhoods soon reflect these changes for better or for worse. Unless there is some sort of governmental control, land-use distributions in these areas would develop as economic and social forces impelled them. Individual selfish interests would ignore and conflict with the goals of the general community and public interest. To forestall this type of activity then, local or county-wide controls in the form of zoning regulations, subdivision controls, master planning, and official mapping are necessary.[10]

The existence of such controls does not necessarily assure that a community can or will attain the goals it might set for its overall development. Since conditions and needs change with time, the land-use controls cannot be made indiscriminately or for mere political expediencies. In discussing this particular problem area, two of the school officials said that their cities had quite detailed regulations concerning the numbers of family units per residence. The difficulty was that the official city building departments were not provided with sufficient staffs to see that the zoning and housing regulations were adhered to. Consequently, some neighborhoods were extremely crowded, and this crowding placed a heavy burden on the available school facilities there.

All of the school officials interviewed recognized the need and value of zoning and housing ordinances and the importance of such controls in planning school facilities. As a matter of fact, many of them depend upon these regulations in projecting and predicting their classroom needs.

The adoption and administration of zoning and other land-use controls within most metropolitan areas are divided among a multiplicity of local governmental units. Each of these autonomous planning authorities usually is concerned with the zoning problems in its own jurisdiction.[11]

The problems in this regard seem to arise in the interpretation and enforcement of the regulations. In several instances, the boundaries of the school system encompass more than one civil district. Zoning regulations in one area of the school system are often in conflict with those in another area.

The efficiency and effectiveness of many school buildings depend upon the type of neighborhood or community in which they are located. The type of neighborhood in turn depends to a great extent

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[10] Charles Ball. "Milwaukee Land Use and Zoning," *Traffic Quarterly*, October 1959. pp. 581–582.

[11] Ibid.

upon the zoning regulations, which determine whether it is strictly a residential area or a combination of residential, commercial, and industrial areas. The type of neighborhood depends also on the extent to which limits are placed on the population density through controls on the height, bulk, and occupancy of buildings.

Planning

While this particular problem area of school-facilities planning did not seem to be proportionately as great as some others, it presented difficulties ranging from minor to serious. Approximately one-third of the school officials responding reported that they had had some difficulty in obtaining the cooperation of the city planners when drawing up master zoning plans. In a few instances, there were reports of problems caused by political pressures or expediencies in changing or permitting some zoning regulations.

Approximately one-half of the school officials who reported said that they had some problems in planning school facilities in areas where garden-type apartment buildings or other kinds of concentrated residential buildings were permitted. Usually, the difficulty seemed to arise when there was a sudden influx of families into an established neighborhood. In many instances, the school facilities were already operating at their maximum capacities before the influx of new children. It was also indicated that school-facilities planning was made more difficult by the inconsistencies in regulations concerning numbers of family units per dwelling. Whereas one section of the city may be permitted to have high-rise apartment buildings or multifamily houses, another may be permitted only single-family units.

Under such circumstances, school buildings in one area might be seriously overcrowded, while the buildings in another area might have empty and unused classrooms. This resulted in double, and, in a few cases, triple shifts in the schoolday in districts where concentrations of families existed. In order to offset the effects of such concentration, the school planners were forced to change the school attendance boundaries, to add to old buildings or build entirely new ones in congested areas, or to transport children from one attendance district to another.

It was stressed by the school officials that cooperative planning between city planning boards and school officials was essential if many of the school-facilities planning problems were to be avoided or minimized. In the cases reported where this was done, fewer problems existed.

BUILDING CODES

The formulation of building regulations is another of the responsibilities delegated to the local government. Basically, the intent of regulation of construction is to provide for public health and safety. Certain safeguards then are written into building codes which will assure strong construction, adequate light and ventilation, and reasonable freedom from fire hazards. The building code, like the zoning regulations, is a law or ordinance passed by the local government which establishes minimum requirements for securing structural, sanitary, and fire safety. Properly planned and enforced, it permits the use of any materials or methods of construction that can be proven to meet the performance requirements of the code.

Building codes are much more detailed than zoning regulations since they are concerned with matters of actual building construction. Technical competence is essential, therefore, to develop adequate codes. Until very recently the most popular way of drafting building codes was by voluntary committees of local professional talent. One community patterned its requirements after those of another, but added the variations its own advisers thought desirable for local situations. The codes became a compilation of individual opinions on good construction rather than on sound safety regulations. Intentionally or otherwise, the codes often reflected the personal prejudices of their authors and pressures from local interests. This then resulted in building specifications requiring far more costly construction than necessary for safety.

Several attempts have been made to standardize building code requirements for various segments of the building industry through research and development. Very little of this research has been incorporated into local codes because of the local voluntary procedures and the time-consuming task involved in the review of all these data.

More recently, codes have been developed to indicate the performance requirements for various elements of buildings and structures in relation to the hazards faced or conditions met. As a result, one or two regional codes and three national codes have been developed, and are quite well recognized. Among the latter are the National Building Code, drawn up by the National Board of Fire Underwriters, and the Basic Building Code, drawn up by the Building Officials' Conference of America.[12] These codes contain minimum

[12] Alfred H. Schroeder. "What the Building Code Means to the Public." *Minnesota Municipalities*, February 1961, pp. 50–52.

requirements, provide for acceptance of materials and methods based on satisfactory performance standards, and recognized accepted industry standards. Further, as conditions and materials change, new tests are made and changes are incorporated into the codes.

There would be, of course, certain advantages in the adoption of these recognized codes by the localities. In addition to giving assurance that these codes are kept up to date through careful testing of new construction methods and materials, adoption of these codes would enhance the acceptance of new ideas and would provide for standardization of requirements.

There are a variety of school-facilities planning problems created by building codes. While the school officials recognized that building codes are highly desirable and that many of them are essential, they pointed out that some requirements and circumstances work against the safety and well-being of the occupants. Among them are the inconsistencies in and various interpretations of code requirements, excessive requirements, outdated codes, multiplicity of agencies enforcing codes, and pressures of political or vested interest groups, who may cause codes to be established or revised indiscriminately or to their own advantage.

Planning

Approximately two-thirds of the respondents reported that they were continually beset with interpretations of building codes as applied to (1) new construction, (2) older buildings, and (3) temporary portable buildings. While adherence to code requirements in new construction is somewhat simpler, it is often difficult in older buildings and in portable structures. Strevell and Burke state:

> Although school-building codes, regulations, or standards promulgated by the State educational agency are easier to change than statutes, this does not prevent them from imposing upon localities standards that have not been conclusively demonstrated by research and experimentation, that have become outdated, or that prevent desirable changes in educational policies, programs, methods, and practices.[18]

Authority and Control

In terms of authority, control, and which agency or agencies have jurisdiction, one-half or more of the school officials reported conflicts in the interpretation and methods of enforcing code require-

[18] W. H. Strevell and A. J. Burke. *School Building Programs—Administration of the School Building Program.* New York: McGraw-Hill, 1959, p. 111.

ments. There seemed to be a definite question on the degree to which the school system, as an agency of the State, is subject to the codes of such local agencies as the fire departments, boards of health, and water and sewage commissions. Finchum and Boerrigter report that the State codes are patterned after applicable national or regional codes; they are usually less restrictive than local or municipal codes, and are often intended to set minimum, not maximum, standards.[14]

Where there were conflicts reported, a majority of the school officials indicated that they followed the more stringent code, which in most cases was the local code. They agreed that provisions for the protection of health, safety, and personal comfort should be maintained, but that specific construction details, methods, and materials insisted on by the code often limited the future use of the building. Because school buildings are a specialized type of structure and because the continued efficient utilization of them is dependent upon the ease with which they can be adapted to changing philosophies and programs, special code requirements should be provided for them.

CONSTRUCTION COSTS AND FINANCING

Every step in planning school facilities is dependent upon the availability of funds, and the availability of funds is in turn dependent upon many factors. While this is true everywhere, there are a number of specific problems peculiar to the metropolitan center. During the period of transition from agriculture to industry and of the movement of people from rural areas to cities, a hint of the problems began to appear. The demand for land and the consequent spiraling of land values, the congestion of traffic, the inadequacy of public utilities and other city services, overcrowded housing, and the spread of slums all combined to create serious demands for such services as police and fire protection, better means of transportation, and good schools.

Discussing some of the reasons for the financial plight of big cities, Fred F. Beach said that the financial status of cities has changed markedly since World War II. Growth of the suburbs, shifts in taxable wealth, and population migration are three of the factors that have put cities into a less favorable position in the States than they formerly were. High construction costs, brought

[14] R. N. Finchum and Glenn C. Boerrigter. *School Fires. Prevention, Control, Protection.* Washington: U.S. Government Printing Office, 1962, pp. 52–53.

about by the increasing costs of labor and materials, and lower taxable valuation per pupil, together with constitutional and statutory provisions limiting taxing authority, create real dilemmas. Large cities are the cores of great economic centers which they cannot adequately tax.[15]

The increased pressure for funds from the many governmental operations in the cities and the statutory limitations controlling these funds have, as reported by a number of the respondents, seriously curtailed the maintenance of adequate school facilities. Among the problems in this category reported by the school officials were (1) construction costs, (2) financing, (3) planning, and (4) design. Each is described more fully on the following pages.

Construction Costs

Under the item of costs, nearly every respondent indicated that labor and materials costs were of serious consequence. The effects of these high costs very often limit the building design and result in facilities which do not meet school needs efficiently and economically.

A second major problem of building costs reported was that of establishing valid cost comparisons, both locally and regionally. Variances such as the size of the projects, site conditions, climatic conditions, availability of materials and labor, and the quality and scope of the facilities being planned—even the choice of the cost unit—all have their effects on how boards of education and the general public react to needed expenditures for school construction. A very real but less tangible problem reported was that of relating construction costs to educational efficiency. While plans for school buildings with spaces for large foyers, wide corridors, attics, unused basement areas, high-ceilinged classrooms, gymnasiums, and auditoriums may suggest a favorable overall cost per square foot or cubic foot, the cost for the strictly instructional space may be very high. On the other hand, plans for an efficiently designed building that places emphasis on strictly instructional space and that affords the maximum possible utilization of classroom space may suggest a higher cost per cubic foot. Much of the misunderstanding in school-facilities planning centers around the different possible proportions within a building of usable space to total area.

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[15] Fred F. Beach. "State Aid—New Hope for City Schools," *School Life*. Washington: U.S. Government Printing Office, May 1962.

Closely associated with the problem of relating construction costs to educational efficiency and equally serious are the following problems reported by school officials:

- Methods of computing capacities and utilization of school buildings
- Methods of computing community utilization of school buildings
- Methods of computing instructional space
- Methods of estimating pupil unit ratios.

In view of these various aspects, a majority of the school officials indicated a desire for standardization to avoid conflicting reporting policies. Cost units are difficult, if not impossible, to compare unless compensations are made for cost trends, regional differentials, types of educational programs planned, and the types of buildings and materials used. Construction-cost indexes have been developed by industrial commissioners of some States and by several private firms. Before using these, however, one must be cognizant of the variables referred to.

One-third of the respondents reported at least minor difficulties in the areas of contractors' bidding procedures and inconsistencies of contractual patterns. The other two-thirds indicated that they did not consider these as problem areas since there were statutory provisions which controlled or regulated the procedures. Inasmuch as these regulations were set, they were accepted and complied with.

One final aspect of construction costs that was reported was the stringent and/or excessive building-code requirements and their effects on school building design and costs. Nearly two-thirds of the school officials responding indicated that this was a problem area in school-facilities planning.

Financial Regulations

Problems of financial regulations in planning school facilities were far less prevalent. In fact, only one-fourth to one-third of the respondents reported this as a problem area, and in most cases, the difficulties were considered relatively minor. Methods of budgeting and accounting for construction costs and procedures of bidding on school construction bonds created some concern. Prorating the costs of actual construction to costs of preparing the site for construction, costs for repair of surrounding streets disrupted by the building process, and costs for utilities to be brought to the building was mentioned as a minor problem. Prorating the building costs into such items as site purchase, actual construction, costs for furniture and equipment, and administrative costs of

handling the building program was pointed out by several of the school officials. Approximately one-third of the respondents indicated that they had encountered vested interest groups that influenced building costs.

Planning

With one exception, the problems encountered in the planning of school buildings did not seriously affect construction costs and financing. In a few instances, the costs for time involved in planning with other governmental and public agencies were reported as a minor problem. However, increasing enrollments and other factors which delay the removal of obsolete school facilities were listed by a vast majority of the respondents as a problem area.

Construction and Design

Reporting on building construction and design problems, more than one-half of the respondents indicated that they encountered difficulties in designing flexible and adaptable school buildings. In many instances, this was due to site conditions and locations.

Credit: Montgomery County Public Schools, Rockville, Md.

Movable partitions (center and rear center) have created flexibility of function for this classroom. By following the curve of the windows, one can observe another bold feature of this building: it's circular.

Approximately one-half of the school officials participating in the study reported difficulties in obtaining high-quality construction at a reasonable cost. There seemed to be a shortage of skilled supervisors and workmen because of the vast amount of public and private building construction continually in progress. The results of this shortage usually show up in a relatively short time after the buildings have been completed and put into operation.

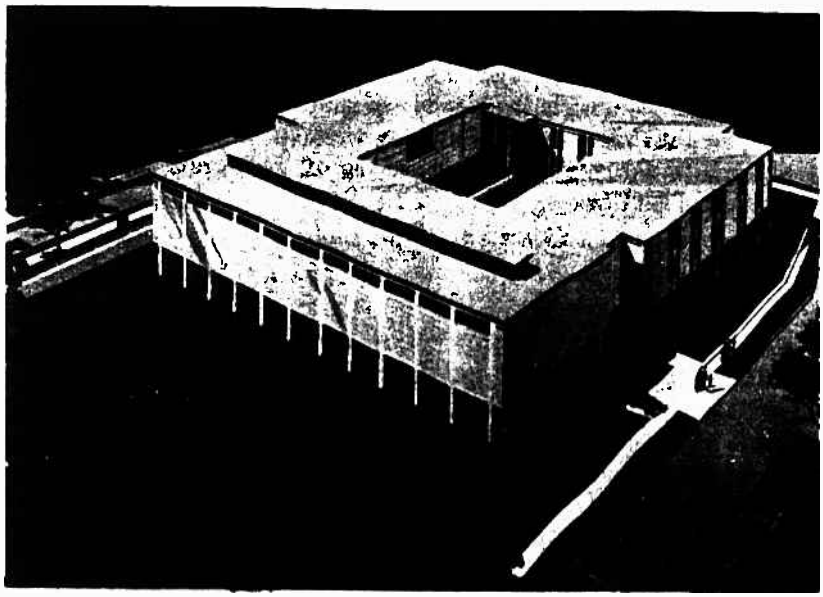
Problems arising from legal restrictions permitting only conventional or traditional designs were practically nonexistent. As indicated in another section of the study, legal controls pertain more to materials and methods of construction than to overall design. The officials from one city indicated that their school board had adopted a more or less conventional design for all of the elementary school buildings in the city; minor adaptations were made to fit each particular site but the same basic overall plan was always utilized.

Slightly less than a third of the respondents reported problems concerning convertible and demountable school buildings. In a number of cities, no problems were reported because this type of building was not in use. Where these buildings were used, one problem was to find a design which was suitable from an educational point of view, but justifiable in terms of costs. Other problems arose from installation and moving costs. Convertible and demountable buildings were regarded primarily as a means of resolving immediate and emergency needs.

Slightly less than a third of the school officials reported problems in developing particular designs for their schools. The roofs of some buildings were designed to serve as a play area. In one case, a school was built on stilts so that the area underneath would provide additional playground area. Plans have also been completed for classrooms in high-rise apartment buildings.

Another problem reported by more than two-thirds of the school officials as quite a serious one was the restriction of building design because of site limitations. There is a constantly pressing need for more classroom space on small sites in congested areas. The expense of expanding the site often precludes possibilities for experimentation in building design, and it limits, to a certain extent, experimentation in educational program planning.

More than one-half of the respondents reported difficulties in establishing criteria to determine the value of a building for remodeling and rehabilitation. Several factors were mentioned by the school officials which had to be constantly borne in mind. In



Credit: St. Louis Board of Education

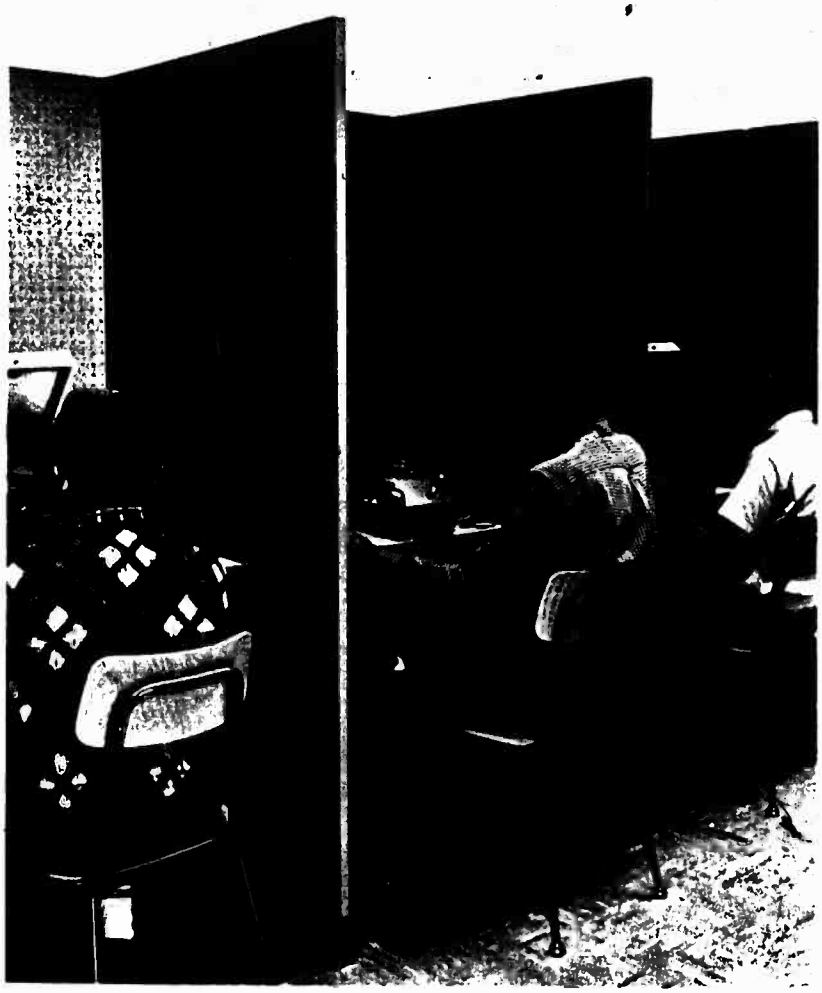
One way of providing a sheltered area for play without sacrificing classroom space is to erect a school building on stilts. This St. Louis elementary school affords one example of how such a plan can look.

the first place, there are no absolute measurements for determining the value of a school building. A building may fail to meet certain accepted standards, it may have enrollments in excess of capacity, or it may not be properly located in terms of pupil residence. These factors do not necessarily mean that the building should be replaced. On the other hand, costs for modernization, and remodeling and/or rehabilitation may be too high in terms of long-range needs. Even if it were possible to apply objective standards of evaluation, several instances were mentioned where pressing enrollment needs gave little opportunity to modernize, remodel, or replace the buildings.

EDUCATIONAL PROGRAM PLANNING

Changing philosophies of education, new understandings of how children learn, and such innovations as team teaching and the use of educational television, recordings, and other electronic equipment have implications for program efficiency, which dictate changes in building design. In addition, plans must provide for

the special equipment, space, and staff required in special education programs for the physically and mentally handicapped, the gifted, slow learners, migrants, and others. Such provisions are becoming increasingly necessary as population becomes concentrated in the large metropolitan centers. It was reported that in many of the schools a large percentage of the pupils enrolled need such special services.



Credit: Montgomery County Public Schools, Rockville, Md.

With teaching machines, each pupil is able to master a lesson at his own pace. For maximum effectiveness, each pupil should have a fairly private study space in which to use the machines; such spaces can be made, as above, by use of pegboard booths.

One of the essential elements for the successful operation of a modern educational program is the building which houses that program. The school building itself is an instrument of education; it is a place where pupils should have opportunities to develop better mental, social, and physical habits. Therefore, the principle that the school plant should be designed to fit the desired program has long been accepted.

Educational program planning in the metropolitan central cities has been complicated by a number of different factors: population growth, mass movements from the farms to the cities, new methods of communication, poor housing, slum areas, expressway development, and many others. As these problems of educational program planning arise, they affect school-facilities planning. In this aspect of the study, the following problem areas were identified: (1) planning problems and (2) design problems.

Planning

In terms of problems of planning, one area which seemed to be paramount in the minds of school officials participating in the study was that of visualizing future educational programs and how they should be accommodated. Buildings being planned and constructed today will doubtless still be in use for the next 75 to 100 years, and one of the problems of planning is to make them adaptable enough to accommodate future programs efficiently. A second problem reported by a majority of the building specialists was that of creating designs that represent the most efficient use of building space. A factor having great influence on this type of planning which has been mentioned in a previous section (see p. 37) is that of site limitations on the building design.

A rather minor problem in planning, but one which was mentioned by one-fourth of the respondents, was that of pressures exerted by vested-interest groups to include nonessential areas in school buildings. Examples of this were the inclusion of large auditoriums or spectator-type gymnasiums when there were similar facilities available nearby.

To be completely successful, educational program planning must be done cooperatively with other local agencies. It is quite evident that this is being done in a majority of the cities in the study because less than a fourth of the school officials reported any problems in this area. Questions pertaining to the relationships between the local public school system and (1) private or parochial schools and

(2) Federal, State, or other local agencies revealed a similar reaction. There were some indications of planning problems between the central cities and adjoining school districts, particularly where annexation of territory was involved. There appeared to be a feeling of indifference of one area or locality to the adjacent one.

A rather significant and noteworthy activity was mentioned by two or three of the school officials in reference to the use of population, enrollment, and other pertinent data by the various community agencies. In these cases, the research sections of the school district obtained the information, kept the records current, and furnished the information to the other city planning agencies. The advantage of this is, of course, that comparable data are used.

Design

Nearly two-thirds of the school officials indicated that they encounter problems in designing rooms to accommodate team teaching, the use of electronic devices, and other programs or aids as they are developed. The same number of officials reported problems in planning mechanical services and equipment designed to minimize future difficulties in remodeling the building or making additions to it. Many of these problems arose out of limitations imposed on the original design of the building by the construction methods used. A second consideration expressed by several respondents was that considerably more research should be done to prove the value of these new teaching aids in order to justify the extensive and expensive remodeling which they necessitate in existing buildings.

Approximately one-third of the officials reported that they faced the problem of designing school buildings for permanent, temporary, and mobile use. This problem arose because of potential changes in the status of various neighborhoods served by the schools. In several special instances, school officials referred to their long-range program plans and showed how intervening expressway development projects or other community activities had completely changed the plans. They were, therefore, thinking in terms of more flexible planning of buildings to cope with these possibilities.

Very few problems relating to special design in school-facilities planning were reported. Neighborhood schools and schools in high-rise apartment buildings were utilized in several instances. Design-

Credit: Montgomery County Public Schools, Rockville, Md.

Older school buildings can sometimes be adapted to permit the use of newer teaching techniques; the placement of sliding partitions in the classroom pictured here makes it usable for either conventional, self-contained classroom instruction or for the newer concept of team teaching.

ing buildings for cooperative use with other local agencies and industries created few, if any, problems. Probably the most serious problem in this connection was scheduling the use of the buildings for these other purposes.

Problems of construction research and development were mentioned by nearly two-thirds of the officials. The necessity for more coordination of research that has already been done and for funds and staff to conduct building-planning research was stressed.

Credit: Board of Education of the City of New York

Getting the most "mileage" out of a small site is a great challenge in building urban schools. The many ingenious ways of doing this include using a roof as a play area. In this artist's conception of a prospective housing complex in New York City, the low building in a school: its round roof (right front) will be a play area.

POPULATION MOVEMENT

The United States has rapidly become an urban nation—nearly 60 percent of our people now live in metropolitan areas. Two-thirds of the increase in population between 1950 and 1959 occurred in these areas, and the greater part of future population increases is most likely to be in the urban regions.[16] While the population is concentrating in areas that embrace multiple towns, cities, and suburbs, sharp shifts of the population are occurring within these areas. The population increase in the central cities of the SMSA's during the 10-year period of 1950–60 was 10.7 percent, whereas the population increase in the parts of the SMSA's that lie outside the central cities was 48.6 percent. The latter areas accounted for nearly two-thirds of the total national population growth.[17] In some individual cases, the population of the central cities actually declined. As indicated elsewhere, a large number of people moved directly from the central city to the suburban areas, and their places were taken by migrants from farms and small towns. Thus, a substantial part of the central city population was rapidly becoming composed of lower income and minority groups. This tends to bring some of the cities' problems into focus.

In describing the effects of the changes in central-city population, Amos H. Hawley said:

> The type of people who leave the central city for suburban residence has an implication of another sort. They include a disproportionate number of persons who, by virtue of their educational and occupational achievement are actual and potential leaders. They are replaced by persons who are much less qualified for leadership positions though their progeny doubtlessly will gain those qualifications in time. But many of the leadership group who move away from the central city do not relinquish their leadership positions. Through their activities as executives and specialists of various kinds they continue to influence and often determine policies that have major import for the central city . . . Thus there is a kind of absentee ownership (or control) implicit in the suburban-ward movement of the higher social-economic residents.[18]

The impact of the population movements on school-facilities planning in the metropolitan central cities was emphasized repeatedly by school planning authorities. Rapid shifts in population within cities and the constant in-and-out migration of people affect both

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[16] Thomas F. Johnson and others. *Renewing America's Cities.* Washington: Institute for Social Science Research. 1962, p. 1.

[17] U.S. Department of Commerce, Bureau of the Census. *United States Census of Population 1960.* Washington: U.S. Government Printing Office, 1961.

[18] Amos H. Hawley. op. cit.

educational program planning and school building needs. A variety of factors, including the numbers of people, their mobility, and their social and economic backgrounds, are influential to some degree in every phase of the school-facilities planning process. The two general problem areas related to population movements which were referred to by the school planning authorities were (1) socioeconomic implications and (2) the physical implications of these movements.

Socioeconomic Implications

As indicated in an earlier section, there is a great shift of the middle class to the suburbs, while the central cities are becoming increasingly the place of residence for the impoverished. This movement is destructive of the heterogeneity of function, of purpose, and of people on which the viability of the modern urban community is dependent.[19] Nearly every one of the school officials responding indicated that this was one of his major problems. The solid occupation of many neighborhoods by the economically and culturally disadvantaged gradually leads to economic disaster—inefficient land use, traffic congestion, deterioration of businesses, low tax revenues, and high municipal costs.[20] These changes affect the quality of the school district attendance centers and subsequently the educational program planning and school-facilities needs.

Closely related to this is the matter of seasonal migration within the school year, which results in over and under utilization of school buildings. During the winter many of the school buildings become seriously overcrowded because of the influx of migrant workers' children. During the spring, when the migrant workers take their children out of school so that the entire family can follow crop planting, cultivating, and harvesting, many classrooms are left unused. In terms of planning educational programs and buildings, this creates serious problems, as nearly one-half of the school officials interviewed indicated.

Three-fourths of the officials said that they encountered problems in trying to identify the effects of population replacement in the redeveloped areas and the areas adjacent to them. As large numbers of people are uprooted and relocated, existing school facilities are crowded in numbers and ways that are hard to predict.

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[19] William L. Slayton. op. cit.
[20] M. Carter McFarland. op. cit., p. 15.

Moreover, the attitudes of the people in these areas, although understandable, add to the existing problems. These attitudes seem to be reflected in a weakening of the idea of the neighborhood as a distinct community, with the school as its core. Approximately one-half of the school officials indicated that this type of loyal support has broken down.

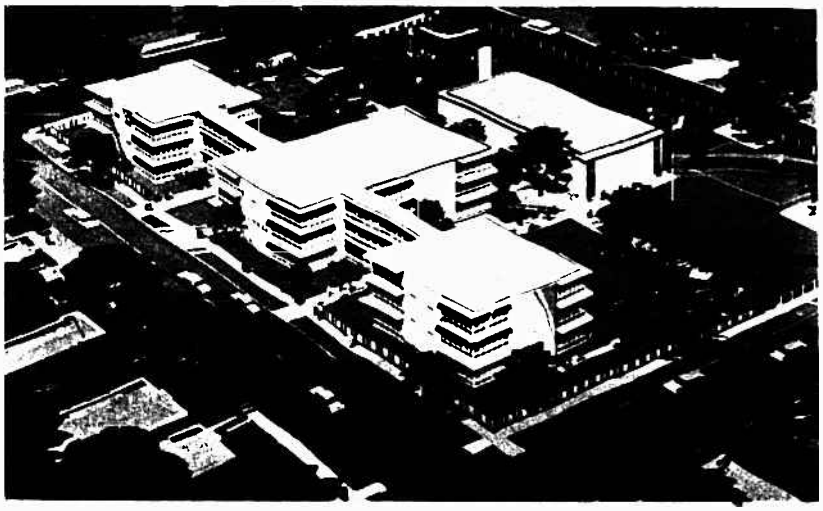
These factors have caused serious problems in establishing and accomplishing community goals; this problem was mentioned by nearly three-fourths of the respondents.

The actual physical problems caused by these socioeconomic problems were closely related. A large majority of the school officials indicated that the population movements not only created problems regarding the use of individual school buildings, but that they often created problems regarding entire school attendance or service center boundaries. The necessity to constantly revise attendance boundary lines and shift pupils from one building to another because of overcrowding affected transportation, program planning, and staff relationships.

SITE LIMITATIONS

A successful educational program in each community is the result of careful and prudent planning, directed toward goals and objectives that are clearly stated and understood. Its continued success is also dependent upon projected programs not only of the school but of the community itself. The school site is an integral part of the overall educational program, and may either enhance or impede its success. Several commonly accepted criteria for judging the worth of a site are (1) the inherent health and safety factors of the site, (2) the suitability of the site for functional uses, (3) the economy of the site in terms of original and developmental costs, and (4) the capacity of the site's environment to stimulate appreciation and pride in the total program.

There is no single or standard pattern by which all school sites may be judged, nor should there be if educational programs are rightfully designed for the individual needs of each neighborhood or area. Each site should be evaluated in terms of how it can best and most efficiently provide required spaces. There are certain basic characteristics to look for in selecting a site and in estimating its future value. These characteristics are (1) the location of the site in relation to the present and future school population to be served, (2) the size and suitability of the site to accommodate the



Credit: Chicago Public Schools

This new elementary school in Chicago is attended by many pupils from high-rise public housing projects nearby. The three separate sections were designed to allow a high degree of decentralized instruction.

buildings needed and spaces for outdoor activities, and (3) the physical features of the site which will permit the efficient adaptation and development for continued use. There are generally accepted suggestions for minimum acreages for school sites. It is often impossible in the metropolitan central cities to obtain sites as large as desirable because of high land costs and the scarcity of open land in the areas of greatest need.

More than three-fourths of the school officials reported land acquisition to be one of their serious planning problems. Severe limitations are often imposed because of the scarcity of land in the proper locations; the characteristics of available sites often restrict the building design.

Public school districts, as duly constituted governmental units, may exercise the right of eminent domain to obtain needed land for school sites. In several instances, however, the officials indicated that they were hesitant to use this means because of the time and extra expense involved and because of the possibility of creating unfavorable public opinion. A facet of this problem reported by nearly one-half of the school officials was speculation and consequent inflationary costs of land for potential school sites. Officials of one city reported that the school district had to pay $2½ million

for a site, equivalent in size to 2 city blocks on which to build a complete high school for more than 2,000 pupils. There were relatively few instances reported in which pressure groups promoted the purchase of inadequate and costly school sites.

More than one-half of the respondents said that many of their problems stemmed from costs for site clearance and development for buildings.

COMMUNITY RELATIONS

A successful program of planning and providing needed school facilities is dependent upon a thorough, communitywide understanding of the total educational program desired. General public approval is necessary at various stages of the planning, particularly in places where legal requirements demand a vote of the people or of another governmental agency. Financing of educational programs and facilities to accommodate the programs is done largely through local funds, and depends upon general agreement from the community on the values and needs of the program.

The problem becomes more apparent when it is realized that in 1961, 3.7 percent of the revenue receipts of public elementary and secondary schools came from the Federal Government, about 39.2 percent from the State governments, and about 57.1 percent from the local governments.[21] State and local governmental expenditures for all public education in 1961 amounted to some $20.6 billion, or 36.6 percent of the expenditures for all purposes. Total expenses for public schools in 1961–62 amounted to 4.4 percent of total personal income.[22]

The essence of successful community relations is a sound, businesslike approach to the task of supplying those educational services which the community wants. Experience in working with municipal governments has demonstrated the competency of the community (1) to determine essential values and ultimate objectives, and (2) to work cooperatively through its leaders and its experts toward desirable and highly constructive ends.[23]

Such factors as shifts in population, transient neighborhoods, and economic and educational backgrounds which affect school-facilities planning are particular problems in the area of promoting good community relations. Many of the people in the metropolitan cen-

[21] National Education Association. *NEA Research Bulletin*, February 1963. Washington: The Association, 1201 16th Street NW., p. 8.
[22] Ibid., p. 9.
[23] W. H. Strevell and A. J. Burke. Op. cit., p. 347.

tral cities have not established permanent roots in the particular community and consequently have not formed loyalties needed to support many of the local projects.

In identifying problems of community relations in planning school facilities, approximately 30 percent of the school planning officials reported difficulties in their efforts to inform other governmental agencies and the general public about educational and building programs. Several did indicate that many of the citizens in their communities took an interest in their own neighborhoods but were not concerned with the overall school district policies. One-half of the respondents said that they had encountered problems in describing the complexities of school-facilities planning problems to the public. A large part of this was due, they thought, to the general apathy of the citizens in their communities. Approximately one-half of the school officials said that they had encountered problems in securing cooperation from other governmental agencies and the general public to determine school building needs. There seemed to be a feeling of competition among the agencies in a few of the cities. All agreed that an awareness of school-facilities planning problems by all of the governmental and other responsible agencies, as well as by the general public, is essential.

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APPENDIX A

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office of Education

Washington 25, D.C.

Interview Guide

CHARACTERISTIC METROPOLITAN SCHOOL FACILITIES PLANNING PROBLEMS

Definitions:
1. *Major problem*—The problem is serious
2. *Minor problem*—There is a problem
3. *Solved problem*—The problem once existed, but it has been solved
4. *No problem*—The problem does not exist in the school system

	Degree of problem seriousness			
	Major	Minor	Solved	None
I. Problems Created by Urban Renewal Projects				
A. Cost and financing				
1. Removal of property from the tax rolls in a redevelopment area, thereby causing the need to supplement local funds or to curtail expenditures until the newly developed property is placed on the tax roll which affects—				
a. Necessity for replacement of school buildings and sites				
b. Required new services in a school system even though the problems are caused outside the system				
c. Effects on general building operational procedures				
2. Long-term litigations whereby either money or land is tied up until final development occurs				
3. Determining an acceptable formula for Federal, State, and local agencies to underwrite the cost of redevelopment area				
4. Permanent loss of tax funds because of public housing				

	Degree of problem seriousness			
	Major	Minor	Solved	None
I. Problems Created by Urban Renewal Projects—Con.				
B. Planning				
1. Getting urban renewal authorities to plan cooperatively with school officials for the school or schools needed in a redevelopment area				
2. Obtaining effective school representation on city planning commission				
3. Unpredictable demands for school facilities arising from the timing in completion of urban renewal projects				
4. Recognition by urban renewal authorities that the school serves as an anchor for a neighborhood and thus must be the focal point of a proposed renewal project				
C. Population				
1. Identifying areas of relocation of persons who are displaced by urban renewal projects				
2. The economic and social effects on the areas involved in urban renewal projects on—				
a. Redevelopment areas				
b. Adjacent areas				
3. Shifts in population which—				
a. Change the number of attendance centers or districts within the school system				
b. Lower educational quality of an attendance center				
c. Change the ethnic and racial make-up of the attendance center				
D. School sites				
1. Availability of sites:				
a. New or additional sites needed				
b. Replacement of former sites				
c. Utilization of existing sites within the project area				
2. Urban renewal developers who—				
a. Dictate educational requirements for site size				
b. Apply pressure to build large buildings on small sites				
c. Fail to approve desirable school sites				
E. Zoning				
1. Lack of regulations which permit potential degeneration of city areas because of the impact of redevelopment				
2. Political implications which allow bypassing of local ordinances to the advantage of urban renewal developers				
3. Revised zoning regulations which permit high density of residential population				
F. Legislation				
1. Intricacies of legislation affecting urban renewal at the following levels:				
a. Federal				
b. State				
c. Local				

	Degree of problem seriousness			
	Major	Minor	Solved	None
I. Problems Created by Urban Renewal Projects—Con.				
G. Authority and control				
1. Determination of which agency has authority and jurisdiction in redevelopment areas. This includes such agencies as the school district, city planning commission, health department, agencies at the Federal level				
2. Undue influence urban renewal developers exert on the—				
a. School system				
b. Citywide where it affects the school system				
H. Design				
1. Urban renewal policies which govern or restrict the design of school buildings				
II. Problems Created by Expressway Development				
A. Cost and financing				
1. Difficulty of being reimbursed for school sites or portions of sites which are preempted by expressways				
2. Loss of revenue due to property being removed from tax rolls for expressways				
3. Costs of replacing school sites which have been taken for expressway development				
B. Planning				
1. Expressways planned in advance of the time such information is made available to school authorities				
2. Changing and/or conflicting information regarding advanced planning for expressway development				
3. Coordinating leadership and cooperation between adjoining school districts into which expressways extend				
4. Limited access to expressways which increase pupil transportation costs				
5. Willingness of State and city expressway authorities to plan cooperatively with school officials				
6. Psychological impact of expressways which divide established school service or attendance areas				
7. Tendency of expressway developers to plan routes from school site to school site because of ease of obtaining school lands				
C. Authority and control				
1. Determination of who has final authority of land condemnation—school system, expressway developers, or city council				
2. Expressway developers preempting school system property				
3. Lack of local control over expressway planners				

	Degree of problem seriousness			
	Major	Minor	Solved	None
III. Problems Created by Zoning Regulations				
A. Planning				
1. Obtaining the cooperation of the city planners drawing up master zoning plans				
2. Zoning regulations which are changed because of political pressures				
3. City planning commission that attempts to control location of school sites				
4. Effects of concentration of population due to high rise apartments and/or other types of residential buildings				
5. Zoning regulations which are inconsistent in regulating or controlling concentration of population in one area				
B. Zoning				
1. Requirements for school site utilization, such as parking facilities, etc				
2. Temporary delays in securing school sites due to zoning regulations				
IV. Problems Created by Building Codes—Local and State				
A. Planning				
1. Codes regulating the use of temporary buildings				
2. Codes which are revised as a result of political pressures				
3. Old school buildings which violate new building code regulations				
4. Code requirements of the following specific areas which affects educational planning:				
a. Number of sanitary facilities				
b. Heating and ventilating				
c. Fire safety				
d. Other				
5. Increased costs because of excessive code regulations				
6. Building codes which are outdated				
7. Unwritten building codes enforced by local officials				
8. Lack of uniformity and the inconsistency of fire safety codes				
9. Procedures for condemnation of hazardous school buildings				
B. Authority and control				
1. Determination of which agency has final jurisdiction in cases where building code conflicts exist				
2. State and local agencies using different procedures to enforce varying building codes. (Some are specifications and others are performance standards)				
3. Multiplicity of State and local agencies which require approval of building plans				

	Degree of problem seriousness			
	Major	Minor	Solved	None
IV. Problems Created by Building Codes—Continued				
B. Authority and control—Continued				
4. The school system, as an agency of the State, being subject to the codes of such local agencies as—				
a. Fire department				
b. Board of health				
c. Water and sewage commission				
d. Others				
5. Regulations which affect specific distance that school buildings must be set back from the road				
6. Aeronautical regulations regarding specified distance a school site must be from an airport				
7. Regulations affecting distance school buildings must be from saloons, railroads, churches, and cemeteries				
V. Problems Created by Construction Costs and Financing Regulations				
A. Costs				
1. Excessive labor and materials costs				
2. Establishing valid cost comparisons, such as—				
a. Building and unit costs				
b. Construction costs to educational efficiency				
c. Standardization to avoid conflicting reporting policies				
d. Methods of computing school building capacities and utilization				
e. Method of computing community utilization				
f. Method of computing instructional space				
g. Methods of estimating pupil unit capacity				
h. Others				
3. Inconsistency of contractor bidding procedures				
4. Inconsistency of contractual patterns				
5. Stringent and/or excessive code requirements which affect construction costs				
B. Financial regulations				
1. Universal methods of budgeting and accounting				
2. Methods and procedures of bidding school construction bonds				
3. Establishment of good community rating for bonding purposes				
4. Prorating cost of building with respect to demolition costs, street repair costs, etc				
5. Prorating building costs into such areas as site purchase, construction, furniture, equipment, bond interest, etc				
6. Vested interest groups who can influence prices				
7. The cost of research relative to planning				
8. State regulations pertaining to debt limitations				
C. Planning				
1. Cost of cooperation with other agencies on planning problems (extra time taken, etc.)				
2. Determination of a basis for granting matching Federal funds, if such funds were to be available				
3. Increasing enrollments and other factors which delay the removal of obsolete buildings				

	Degree of problem seriousness			
	Major	Minor	Solved	None
V. Problems Created by Construction Costs and Financing Regulations—Continued				
D. Construction and design				
1. Incorporation of flexibility and adaptability in a building				
2. Supervision to obtain high-quality construction at a reasonable cost				
3. Conventional or traditional designs because of legal restriction				
4. Designing convertible and demountable schools				
5. Developing characteristic building designs for metropolitan areas, such as multistory, playground on roof, etc				
6. Establishing criteria to determine the value of a building for remodeling and rehabilitation				
7. Restriction of building design because of site limitations				
VI. Problems Created by Educational Program Planning				
A. Planning				
1. Planning for an educational program by—				
a. Providing adaptable and flexible buildings				
b. Visualizing future educational programs				
c. Planning for efficient utilization of building space				
d. Encouraging designers to be experimental				
e. Providing a statement of educational use				
2. Pressure of vested interest groups to incorporate nonessential areas in school buildings				
3. Determination of the portion of the total district building program which should be permanent construction and the portion which should be temporary construction				
4. Cooperative planning—				
a. Between the local system and private and parochial schools				
b. Among the local system and Federal, State, and other local and private agencies				
c. Between the local system and contiguous system, especially in annexation cases				
d. Use of comparable enrollment and other data by the school research section and other agencies				
B. Design				
1. Designing rooms to accommodate changing ideas or programs such as team teaching, use of electronic devices, and other programs or aids as they are developed				
2. Planning mechanical services and equipment to minimize building problems in future remodeling or additions				
3. Designing buildings for—				
a. Permanent use				
b. Temporary use (10–15 years)				
c. Mobile use				

	Degree of problem seriousness			
	Major	Minor	Solved	None
VI. Problems Created by Educational Program Planning—Continued				
B. Design—Continued				
4. Special design:				
a. Elementary schools in high-rise apartments				
b. Windowless rooms or buildings				
c. Schools which provide fallout protection				
d. Facilities to accommodate special programs such as—				
Industry initiated programs				
Peripheral programs				
Senior citizen centered programs				
Salable skills programs				
5. Designing schools for experimental programs				
6. Knowing what a comprehensive school program is so that a building may be adequately designed				
7. Designing a building which will be integrated into the community it serves				
8. Lack of coordination of research:				
a. Building design				
b. Environmental control				
c. Other				
9. Need for money to conduct building planning research				
VII. Problems Created by Population Migration				
A. Socioeconomic implications				
1. Movement of low income families to congested areas				
2. Migration of racial and ethnic groups:				
a. Rapid changes which affect quality of attendance centers				
b. Rapid changes which affect programs and consequent building needs				
3. Seasonal migration within the school year which results in over and under utilization of buildings				
4. Identification of the effects of population replacement in the redeveloped and adjacent areas				
5. The school serving as the "anchor" or the core of a neighborhood				
6. Forecast planning for long-range community goals				
B. Physical implications				
1. Population movements which change needs for school buildings				
2. Population movements which require changing school attendance or service center boundaries				
3. Coordination of census gathering between and/or among the school system and other agencies				
VIII. Problems Created by Site Limitations				
A. Obtaining appropriate and adequate sites				
B. Site characteristics which restrict or control the building design				
C. Legal implications of—				
1. Eminent domain				
2. Deed restrictions				
3. Parking requirements on sites				

	Degree of problem			
	Major	Minor	Solved	None
VIII. Problems Created by Site Limitations—Continued				
D. Speculation on land, thus inflated costs of potential school sites				
E. Pressure groups which promote the purchase of inadequate and costly school sites				
F. Excessive site demolition, clearance, and development costs				
IX. Problems of Public Relations Activities				
A. Informing other government agencies and the general public regarding—				
1. Educational and building programs				
2. Complexities of the school facilities planning problems				
B. Securing the cooperation of other governmental agencies and the general public in determining school building needs				

APPENDIX B

Regional Offices of the Housing and Home Finance Agency

Region I: Room 906, 346 Broadway, New York 13, N.Y.; Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York.

Region II: Room 1004, Widener Building, Chestnut and Juniper Streets, Philadelphia 7, Pa.; New Jersey, Maryland, Delaware, District of Columbia, West Virginia, Virginia, Pennsylvania.

Region III: Room 645, Peachtree-Seventh Building, Atlanta 23, Ga.; Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Florida.

Region IV: Room 2000, Bankers Building, 105 West Adams Street, Chicago 3, Ill.; Michigan, Ohio, Indiana, Illinois, Wisconsin, Iowa, Minnesota, North Dakota, South Dakota, Nebraska.

Region V: Room 2000, Federal Center, 300 West Vickery Boulevard, Fort Worth 4, Tex.; Kansas, Missouri, Arkansas, Louisiana, Oklahoma, Texas, Colorado, New Mexico.

Region VI: 3d floor, 989 Market Street, San Francisco 3, Calif.; Washington, Oregon, California, Idaho, Nevada, Arizona, Utah, Montana, Wyoming, Alaska, Hawaii, Guam.

Region VII: 1608 Ponce de Leon Avenue, Post Office Box 9093, Santurce 17, P.R.; Puerto Rico and the Virgin Islands.

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