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## ABSTRACT

This publication explains how New York City has made a beginning in the adjustment of school procurement to meet conditions in a society where the most abundant resource is people. Faced with a burgeoning school population and dissatisfied with the existing and planned facilities, the city of New York formed a School Space Study committee in 1970 to develop innovative approaches to providing quality space at reasonable costs with quick delivery. The results of that study are reported herein. Alternative educational and facilities options recommended include (1) the planning of 400-600 student primary and intermediate schools on small, scattered sites; (2) the provision of education space in new apartment buildings for the use of local school districts; (3) the use of "found space" in nonschool building types that would require minimal conversion costs and that could be pressed into service for educational programs; (4) the distinction between old or obsolete schools and the renewal of the old schools physically and educationally; (5) the extended use of existing facilities through scheduling changes, night sessions, and year-round schools; the consolidation and recycling of underused elementary and intermediate schools for use as small high schools; and (6) the applications of systems building and building systems to the construction of new schools. The document provides the names and addresses of school personnel and planners associated with some currently operable innovative approaches. (Author/MLF)

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URBAN EDUCATIONAL FACILITIES OPTIONS

If it can be done in New York City,  
it can be done anywhere....

The final report of the New York City  
School Space Study Committee  
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## FOREWORD

In a frontier society where land is the most abundant resource, men erect a new building for each distinct function. Thus in America, when men wanted to provide for the education of their young, they joined together to raise a schoolhouse. Later, when land was scarcer and men had too many preoccupations to engage personally in construction, they nevertheless followed the same pattern and got together to raise money to pay someone else to raise a schoolhouse. The technique had changed, but the approach was still direct: the community identified a function and arranged to house it in special quarters on a dedicated piece of land.

It is now eighty years since the frontier in the U.S. was declared officially at an end, but the patterns of thought persist. In crowded urban areas beset by financial shortages, we still attempt to carve out a special site on which to erect an identifiable educational institution, even if we have to seize homes and businesses or resort to spanning highways or filling adjacent waters. But it has become obvious that new times, new technology and new modes of learning demand new solutions.

This publication recounts one such solution. It tells how New York City has made a beginning in the adjustment of school procurement to meet conditions in a society where the most abundant resource is people.

August Gold, Administrator  
Division of School Planning and Research  
New York City Board of Education

## SUMMARY

### Problems

- . high costs of construction
- . site scarcity and heavy relocation
- . educational disadvantages of large schools
- . tight budget
- . slow, cumbersome approvals

### Objectives of School Space Study

- . provide quality spaces quickly, inexpensively
- . develop small school units
- . encourage use of open-space learning

### Methods: A Series of Options

- . Small schools: new construction, 400 to 600 students on dispersed sites of  $\frac{1}{2}$ + acre, with an educational program and interior design based on open-space learning complexes.
- . School space in apartment buildings: provision of education space in new apartment buildings for the use of local school districts where students from new large-scale housing will strain local schools.
- . Found space: "as is" use of buildings not designed in the first instance as schools but which require minimal conversion costs and can be used quickly for elementary, intermediate or high school programs.

- . Reusing old schools: distinguishing between old and obsolete schools and renewing the old schools, physically and educationally.
- . Rescheduling: use of high school buildings for two full school organizations; consolidation and recycling of underused elementary and intermediate schools for use as small high schools.

#### Results

- . recognition of the ideas, and funding of specific projects initiated by the New York City School Space Study in the 1972-73 City Planning Commission and Mayor's proposed Capital Budget.
- . the beginnings of participation by Community School Districts in proposing and selecting educational facilities options which best meet their needs.

## I. INTRODUCTION

- Needed . A willing Chancellor or Superintendent of Schools
- . Eager local school board or community groups
- . Several city agencies willing to be advocates of change
- . A somewhat responsive bureaucracy
  
- Helpful . A budget crunch
- . A limited supply of land
- . Heavy and difficult relocation
- . Dissatisfaction with existing and planned facilities

### Background

In November, 1970, three New York City agencies, the Board of Education, the City Planning Commission and the Bureau of the Budget, asked EFL to fund an inter-agency study of alternative methods of providing school space in the city. The three agencies were anxious to find solutions to the problems of escalating costs, financial constraints, site scarcity, relocation difficulties and the slow pace of design and construction. The city was burdened with an "Alice in Wonderland" construction program which seemed to grow larger and larger without reducing overcrowding. The agencies and EFL formed a School Space Study Committee to develop innovative approaches which would reflect three basic objectives: quality space, reasonable

costs, quick delivery. Two major themes were that the spaces be in small units wherever possible and that the spaces be designed for open-space learning.

The preliminary definition of the most promising types of spaces and approaches included: new small elementary and intermediate schools (400-600 students) on scattered sites; high schools of not more than 2,500 students on single or dispersed sites; use of systems building and building systems in the construction of schools; purchase or lease of found space requiring minimal renovation in commercial and industrial buildings; educational space in new housing projects; renovation of existing schools to increase capacity and update the educational program.

The committee discussed these objectives, themes and approaches with six of the most overcrowded districts in the city: Districts 6 (Manhattan), 9,10, 12 (Bronx), 16 and 17 (Brooklyn). The committee wanted to work with those districts which could see application of some or all of the innovative approaches to their facilities problems. As these approaches are implemented, these districts will be the first to plan and receive the benefits of the new facilities.

### Results

Fifteen months later, New York City has accepted new



approaches to the provision of educational facilities at a cost reduction of nearly 40% per student. In some instances the rhetoric has more acceptance than individual, specific projects. But real starts have been made. The interim results and the prospects for a continued impact on educational facilities in New York City far exceed the initial expectations of the School Space Study Committee. Most of the people involved in educational facilities have accepted the existence of a number of options for the development of facilities in New York City, and that variety is consistent with an increasing diversity of teaching and learning methodology. How this all came to be is the subject of this report. (For a list of people and agencies involved in School Space Study projects, see Appendix A.) Each approach is discussed in terms of background, problems, progress and further applicability in New York and elsewhere.

There are, however, several documents and actions associated with the acceptance of these new approaches to facilities that should be mentioned before a detailed look at the separate parts. Each has been instrumental in the accomplishment of the School Space Study's objectives:

1. On May 12, 1971, Chancellor Scribner informed the 31 Community School Boards of the City's fiscal constraints and urged them to consider and propose alternative kinds of

school space when asking for additional projects.

2. In September, 1971, the Chancellor released the report and recommendations of the School Space Study Committee,

"School Space Alternatives: A report to the Chancellor of the New York City Public Schools". The six basic recommendations were:

- a) Planning of 400-600 student primary and intermediate schools on small, scattered sites.
- b) Use of "found space" in buildings not designed in the first instance as schools, e.g., commercial buildings, housing projects and a variety of city resources.
- c) Adaptation of facilities to current innovations in teaching philosophy, e.g., "open-space" arrangements for flexible, individualized learning.
- d) Extended use of existing facilities through scheduling changes, night sessions and year-round schools, and by renovations which will offer additional usable space in old schools.
- e) Application of systems building and building systems to the construction of new schools.
- f) Development of high school facilities and programs in line with the Board of Education's High School Division's recent publication "Toward the 21st Century".

The report was widely distributed and received favorable coverage in the New York City news media.

3. In mid-September, 1971, the Chancellor attached to the Board of Education's conventional Proposed School Building Program for 1972-73 a section on innovative projects which relied heavily on the recommendations of "School Space

Alternatives". These were supported by the School Districts at the Board's Public Hearing on the Building Program and approved by the Board of Education.

4. In late September, 1971, the Chancellor appointed Dr. August Gold, a member of the School Space Study Committee, to be head of the Division of School Planning and Research at the Board of Education in order to implement the alternative space recommendations.
5. In mid-October, 1971, the Chancellor and the President of the Board of Education, Isaiah Robinson, presented the Board's 1972-73 Building Program to the City Planning Commission with the request that the section on innovative projects be given special consideration in the Planning Commission's 1972-73 Draft Capital Budget.
6. On October 15, 1971, Mayor John V. Lindsay wrote to Chancellor Scribner expressing his appreciation to the School Space Study Committee for its efforts to find solutions to the school construction difficulties.

"All of the recommendations of the School Space Study Committee certainly deserve continued study on the part of relevant City agencies as well as the Board of Education, and I look forward to seeing some of these approaches incorporated into the Capital Budget for 1972-73."

7. On December 10, 1971, a very austere City Planning Commission Draft Capital Budget was released to the public. In

addition to many rescindments of existing projects, it contained specific recommendations for the funding of five small schools, a lump sum for purchase and renovation of existing buildings, and two schools to be built by systems construction. The draft budget also supported the development of Park East High School on dispersed sites, the development of flexible scheduling, the use of quality leased space to relieve overcrowding, and school space in new apartment buildings.

8. On December 17 and 20, 1971, the new approaches received support at the public hearings on the Draft Capital Budget. These approaches were formally approved along with the rest of the revised draft and forwarded to the Mayor for his study and recommendations.
9. Of nine education projects recommended for new construction funds in the 1972-73 Draft Capital Budget, eight were innovative projects (5 small elementary and intermediate schools, 2 systems schools, 1 small high school unit) totaling \$24 million for about 5,600 students, which represents an average of \$4,300 per student in capital costs, as opposed to the \$7,500 being spent per student in conventional schools; \$10 million was recommended for the "found space" lump sum. The major portion of new funds requested for the 1972-73 education Capital Budget was for innovation.

10. Funding of the new approaches was incorporated into the Mayor's Executive Budget and specific reference made to the School Space Study recommendations in the introductory budget message. (For quotes from the Budget message, see Appendix B.)

#### Implications for the Future: New York and Elsewhere

It is obvious that New York City has just begun to scratch the surface of potential space solutions. Given the wide variation and flexibility implicit in decentralization, Community School Boards in New York and elsewhere should have the option to propose these and a multitude of other approaches. City authorities everywhere must change their budgeting and building procedures to allow for new approaches. Through the use of imaginative and realistic approaches, city schools everywhere should be able to relieve overcrowding and budget strain in the near future.

#### General Perspective

New York City has well over 900 school buildings, most of them highly traditional and inflexible. Even if the City were to undertake nothing but innovative facilities in the next 10-20 years, the dominant educational facility would be conventional in size and physical layout. Thus the proposed innovations are clearly options to, rather than replacements of, existing forms of education. The same will hold for other urban areas.

## II. PROBLEMS

New York City is having difficulty providing sufficient school facilities. Funds are limited. Sites are increasingly difficult to acquire and clear. Costs have escalated at an alarming rate, and the pace of construction is slow. Overcrowding continues to be severe in a number of the communities' schools and in high schools in general.

### Budget

Capital funds for the construction of school facilities have not kept pace with the costs of conventional facilities. In 1965, the Board of Education estimated that it cost \$2.8 million to build an elementary school for 1,200 pupils. For 1972, the estimated cost is \$8.6 million for 1,500 pupils, a jump from \$2,333 per pupil to \$5,733 per pupil. Intermediate schools rose from \$4.8 million for 1,800 students in 1965 to an estimated \$14.1 million in 1972 for 1,800 pupils, an increase from \$2,666 per pupil to \$7,833 per pupil. High schools cost about \$7.8 million for 3,000 pupils in 1965, as opposed to \$33 million in 1972 for 4,000 pupils, a jump from \$2,600 per pupil to \$8,250 per pupil. In 1965, the total capital budget for education was \$158,390,000; in 1971 total capital funds appropriated for education came to \$251,640,000.

Largely as a result of the escalation of costs and the difficulties of site clearance, projects with approved funding

have taken an increasingly long time to use their construction funds. In the preparation of the 1972-73 Capital Budget, the City was forced to recognize that escalating costs had eaten into available capital funds to such an extent that approved projects unable to use their funds (or located in areas not urgently needing the school space) would have to be rescinded or deferred. Clearly, the large capital building program had proved incapable of providing needed school space quickly and inexpensively.

Additionally, the School Space Study Committee questioned if the large conventional schools are best suited to the innovations underway in education, even if the City could afford to build them all. The Committee suggested that skillful use of the Capital Budget could enable New York City to begin to build the kinds of flexible structures that can house innovative programs.

### Sites

In New York City the average size of a traditional 1,500-pupil elementary school site is 100,000 sq ft. This is approximately 2-1/3 acres and can involve the relocation of as many as 240 family units. A conventional 1,800-seat intermediate school requires 120,000 sq ft, a high school for 4,000 pupils calls for approximately 500,000 sq ft, or 12 acres. The City

has fewer and fewer lots of these sizes. While the City is faced with a severe housing shortage, it is increasingly difficult to provide displaced tenants with comparable housing at comparable rents. This is particularly true since the passage of the "vacancy decontrol" message by the New York State Legislature. In recent months judges have been reluctant to grant the City power to remove tenants unless there is proof of plans and funds for the project's construction, but the City will not allocate money for the project until the site is clear.

The problem is to provide needed school space without requiring widespread relocation of tenants.

#### High Costs of Construction

The Space Study Committee has identified the following explanations for the high costs of constructing schools for New York City students:

1. Large size of school buildings: diseconomies of scale
  - a. Large sites are difficult to locate and clear, and the delays result in escalation of construction costs.
  - b. A large amount of circulation space required for inter-communication among units, which adds non-education area.
  - c. Corridors often exist only for traffic between classrooms and stairways.



- d. A large school is expected to render special services, such as auditoria, gymnasias, and media centers in large centralized areas. These expensive spaces are often severely underused, a fact recognized by both staff and communities.
- e. As a function of size, large schools need additional areas for administering and maintaining them.
- f. Large buildings require specialized construction which reduces the number of competitive bidders.

## 2. Construction technology

- a. Individually tailored handicraft methods involve excessive man-hours of construction.
- b. Architectural design of each project for individualized construction neglects cost advantages of multiple systems approach. A simple basic design with several components can be reproduced like an erector set for infinite variety and flexibility.

## 3. "Seventy-five-year" projection

The projection of a 75-year life for each school building results in buildings which outlast their educational usefulness.

- a. Buildings are overdesigned, involving cost-raising standards of quality and installation.

- b. Specifications which attempt to reduce vandalism and wear and tear frequently involve more costs than the projected savings. Replacing damaged or worn items is often cheaper than the cost of initial avoidance of the need to replace them.
  - c. Long-lived, expensive buildings must be kept in use even after the local population has declined, thus requiring unjustified costs of operation. The Board of Education currently operates 87 primary and 8 intermediate schools at less than 75% utilization.
  - d. Changes in educational methodology and in technology lead to alterations that are more costly than a "new start". Most school buildings in New York City today are educationally obsolete but are in use because of the City's heavy investment in them.
4. Excessive Board of Education standards
- a. Code overkill: Many costs can be traced to the accretion of standards introduced over the years by the Board of Education over-and-above health and safety requirements of municipal codes. For example, the New York City Health Code requires 30 footcandles of light in instructional areas; the Board of Education's standard was 60 footcandles with no clear rationale

except "that's what's required by code." This super-specification often makes the difference between retaining existing (often elegant) fixtures in "found space" and putting in new fluorescent fixtures.

- b. Design specifications: Costs are often increased due to complex design standards. The history of such standards has usually followed the pattern of a set of specifications being developed by the Bureau of Design in response to a requirement initiated by the Division of School Planning; such specifications tend to have a life of their own, continuing long after the termination of the condition or situation which gave rise to them. Often the reason for a particular set of standards is no longer known or, if known, has no current application. Examples are the specifications for steps, columns, display surfaces.
- c. Educational requirements: New methodology has tended to add spaces to those traditionally required; seldom is there a replacement or rearrangement. Thus, while all-purpose open spaces have been introduced and libraries have expanded into instructional materials centers, old-style classrooms and specialized rooms (e.g., science) have remained in the programs. There

has been little recognition of the possibility of introducing the specialized facilities (e.g., sinks) into the open spaces, thus saving all the square footage of the special rooms. The result has been to increase the gross space per student, without a corresponding educational benefit.

#### 5. Utilization of buildings

The costs of the construction program are increased because stated needs for space are based on an acceptance of traditional capacity computations and on traditional methods and time allocations for the deployment of students.

Thus the City may be planning new buildings, although existing buildings might have spaces that would be available if counted and used properly.

- a. Building capacities are based solely upon custom and history; there is no scientifically based argument for the premise that a student requires 25 sq ft of classroom space and 100 sq ft of gross space in a building. With the advent of individualized learning and flexible programming, the square foot requirements per student are lower, and thus capacity figures for existing structures can be raised without sacrificing educational space per student.

The whole issue of capacity has been studied in New York City for a number of years. A resolution of the outstanding questions and an evaluation of new educational methodology is critical in determining the size and scope of future educational facilities construction.

- b. Utilization and scheduling the traditional school day and school year are so arranged that existing buildings are frequently wholly or partially vacant.
  - i. Most schools are used only fractionally in the afternoon and evening. High schools, especially, could be used more fully at these times. Many already have sessions as early as 8 a.m. and as late as 5 p.m., but schedule only a small portion of their students at these times, leaving many vacant rooms. Carefully organized end-to-end or day and evening sessions could have the following advantages:
    - . allow for 2 complete school organizations using one facility
    - . eliminate overcrowding, which tends to be concentrated around the lunch periods
    - . increase opportunities for extracurricular activities, such as team sports, school newspapers, musical groups and theatre.

- . increase employment opportunities for students who need or want jobs.
- ii. The present calendar of school attendance leaves big gaps not only in the summer, but also for an assortment of holidays, and in high school, for a series of examination and term-end record days. A rationalization and rotation of vacations and holidays and the computerization of records could result in full year-round building use without increasing individual attendance requirements. In addition to some savings in capital costs, this approach would give greater flexibility to students and staff wanting other than the conventional summer vacation.
- iii. Many myths and apprehensions stand in the way of maximum utilization. These fears as well as the teachers' contracts must be dealt with in order to effectively use flexible scheduling on a wide-spread basis.

## 6. Legal Requirements and Procedures

- a. In New York, the Wicks Law requires four separate construction contracts on public buildings. This can increase costs through lack of coordination on jobs.

- b. Competitive bidding has developed into a system for holding minimum building prices at or above the published appropriation figure. The legal bidding arrangement precludes the possibility of "bargaining"; the customary course is either to take the "low" bid even when it is high on the theory that next time it will be higher, or send the specifications for rewriting and rebid the contract, which results in increased costs because of inflation during the time delay.
- c. Complex approval requirements, rigidly linear in arrangement, delay planning and thus raise costs as price escalation runs its course.
- d. Performance bond requirements are more stringent on school jobs and add to contractors' costs, thus insuring that only those large contractors who can post substantial bonds can compete for contracts.
- e. Routine delays in city payments to contractors result in the regular addition to the bids of a high finance charge to cover bank loans for materials and labor. Since only the large contractors can make the necessary outlay of capital to prevent bankruptcy during delay of payment by the City, the long financing period reduces the number of bidders, keeps the "low bid" high, and results in negating the purpose of the competitive bids.

### Education and Size

As the physical problems attending large schools become more apparent, fears have been expressed that mammoth schools create an overly rigid atmosphere and that they are more concerned with problems of administration and order than of teaching and learning. Also, feelings of impersonalization on the part of students, staff and parents contribute to the feelings of alienation with schools and institutions in general. One teacher has referred to the process as "cattle-ization". Some educators are beginning to ask for smaller educational facilities that will not interfere with learning.



### III. INNOVATIVE PROJECTS AND APPROACHES

#### A. SMALL SCHOOLS

The School Space Study Committee found tremendous enthusiasm at the Board of Education, city agencies and Community School Districts for small schools -- defined as schools of 400-600 capacity -- on scattered sites.

##### Background

Size: "Small" is a relative term. In New York City, a school is small if it contains fewer than about 700 children. In other areas, the numerical definition may change, but the educational, design and cost implications probably will not vary considerably.

In the last few years, New York City elementary schools have been planned for a capacity of up to 1,500 students, usually on a K-4 basis. Intermediate schools are for 1,800 students in grades 5-8, and high schools for 4,000 students in grades 9-12. Requests in the Board of Education's Building Program have reached as high as 2,000 students for an elementary school. "Where it stops nobody knows...."

Site: The increased size of school buildings has required an ever-larger site. Sites of 2-1/3 acres or more have become harder and harder to find. Even when identified, sites are difficult to clear if there are residential and/or commercial tenants. In some areas of the city (generally the most over-

crowded), school construction has virtually stopped because of site and relocation difficulties. With the shortage of decent reasonable housing for relocation, the City had begun to find acquisition of large sites involving widespread dislocation a difficult public policy to support, but seemed to have no alternative means of providing sites for schools. For high schools unusual sites become the norm: platforms across highways and railroad tracks, sites requiring landfill, and sites involving sharp grade changes. All these "special conditions" caused cost increases even above an already inflationary rate.

Costs: The costs of relocation, the costs of the time delays caused by difficult site clearance, the costs of "special condition" sites, the costs of diseconomies of scale, etc.

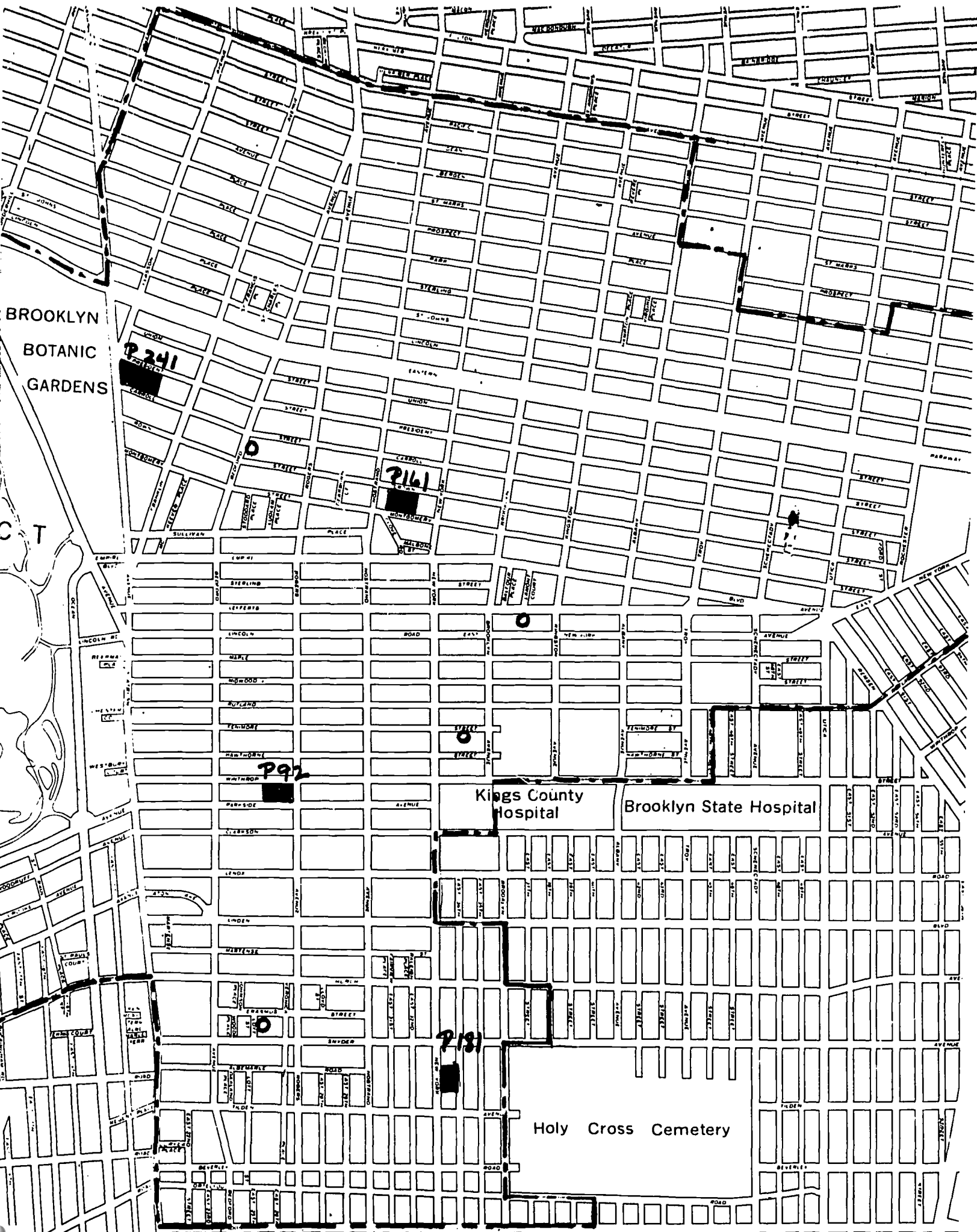
(see p. 13) resulted in a total cost that made it increasingly difficult to build schools at all, even to meet the needs of overcrowding throughout the city. It was the dissatisfaction with a worsening situation that produced the call for a School Space Study.

Community Participation: Schools were taking an increasingly long time to site, plan, construct; costs were rising steeply and there were serious reservations about the educational wisdom of building larger schools. With these factors in mind,

the School Space Study Committee spoke with five Districts\* about the possibility of using one budget line scheduled for a large school of 1,500 to 1,800 pupils to develop 3 or 4 small schools on dispersed sites of  $\frac{1}{2}$  to  $\frac{2}{3}$  acre each. The proposal met with both enthusiasm and skepticism that such sites were readily available. With the help of the City Planning Commission Local Area Planning Offices in Manhattan, Brooklyn and the Bronx, it was established that there were ample site possibilities for each district. Thus Districts which were unable to find large sites for schools were suddenly able to have a choice of desirable school sites for small schools.

District 17 is an excellent example of the flexibility afforded the District through the use of small schools. The District has pockets of overcrowding throughout the district, but the only possible site large enough for a 1,500-student school was located at the end of the District inaccessible to many students. The development of four small schools will

\*District 6 Manhattan: Washington Heights and Inwood  
District 9 Bronx: Concourse, and Highbridge  
District 10 Bronx: Fordham, and Riverdale  
District 12 Bronx: Tremont  
District 17 Brooklyn: Crown Heights



BROOKLYN  
BOTANIC  
GARDENS

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Kings County  
Hospital

Brooklyn State Hospital

Holy Cross Cemetery

allow the District to place them near the overcrowded schools. Site hunts through the overcrowded areas found over two dozen possible sites, which have been narrowed down to the four best ones.

With the cooperation of the Districts, sites were selected for the schools. The Districts held public hearings on the concept of small schools, and all of the District Boards approved the concept. Whenever Districts requested, members of the School Space Study Committee attended meetings to answer any questions about policy or design. In general, the response from parents and community people was most favorable. A few were worried about a possible lack of variety in the educational program that might result from the smaller schools. They were reminded that most schools throughout the country are smaller than New York City schools and that many of them have at least as rich a variety of offerings as New York City. Others expressed concern that the smaller units would suffer from lack of direct supervision from a principal who would be responsible for all the dispersed units in a single school organization. The District Boards felt in every case that this would not be a problem and that it would allow for several styles of administration and several different forms of school organization in the district.

## Advantages

Educational: Close student-student, staff-student, and staff-staff contacts encouraged by the small size of the student body and faculty. Norman Barrish, a New York City teacher and supervisor for 20 years, writes of his experience as head of a small junior high summer school:

"In our small school, we got to know each other. Supervisors, teachers, pupils, parents, aides and office and custodial staff cooperated rather than vied with each other. The school was an informal and friendly place.

"Of course, friendliness is fine in and of itself. But, it also creates a fertile ground for learning. The situation was conducive to educational attainment and also fostered the students' emotional and social growth.

"A large school, in contrast, is by necessity somewhat impersonal. Staff and pupils are frozen into exclusive roles. They tend to become protective and may assume adversary positions....

"I recognize that small schools are no panacea. But running one -- even for a relatively brief time -- has been a revelation to me. It's a way of cutting problems down to size, making them more manageable. It's a place where creative approaches can be tried."

Urban Planning: Sites can be found more easily, because a small school requires approximately one-half an acre (21,000 sq ft) for a school building and play space; schools can thus be distributed throughout a community, requiring very little relocation on the blocks where they are located. Where less ground space is available, playgrounds can be provided on

rooftops, as is currently done by many parochial schools and some city schools.

Both exterior design and size will be of a more human scale than is the case with current school buildings. Integration can be easier to maintain in transitional neighborhoods. Size and numbers in an individual school will be less threatening and can help maintain stability in urban areas. Sites for the several units of a school organization can be selected, and schools planned and constructed as they become available and as they are needed to meet growth in school enrollment. Designs for the small schools will be such that the building can be converted to other uses when they are no longer needed as schools.

Costs: Small schools have been thought to be more expensive than large schools, because the small school was thought of as a miniaturized large school. The small schools proposed for New York City involve not only a reduction of total size but also a new approach to interior design which reduces the gross square feet per student with no loss of educational space. The combination of a lower total area and a quicker delivery time holds down the escalation of costs, buying more educational space without sacrificing quality.



Administrative and staffing arrangements will require no additional costs above the current allocation for large schools. Concerning the supervision of small units, Walter J. Degnan, President of the Council of Supervisors and Administrators of the City of New York, wrote to Donald Elliott, Chairman of the City Planning Commission, "For many years some of our schools have had annexes that functioned very effectively under the supervision of the parent school. We see no reason why such a pattern would not function equally well for the proposed mini-schools..." Several different patterns of supervising the small schools have been suggested by Districts: a) treating the 3 or 4 small schools as one school organization under the direct supervision of one principal with an assistant principal or teacher-in-charge located in each building; b) considering each small school as an annex of a nearby school.

Delivery Time: Because tenants do not have to be moved, and because plans are simplified by reducing unit size, delivery time can be considerably accelerated. This shortens the planning period from inception to completion by several years. Currently, a project may take from 3 to 5 years to be completed. Small schools can be designed and built in a year or two.

#### Features of Small Schools

Program of Requirements: The Board of Education's Program



of Requirements for small schools is a departure from conventional programs. It is a proposal for highly innovative facilities similar to primary and intermediate programs. The basic difference is that the intermediate schools have specialized facilities for science, shop and art not currently found in elementary schools and additional footage for physical education. The similarity between the two types of programs is another step toward acceptance that learning space should be oriented toward functional specifications rather than distinguishing between age groups.

The following extracts are from the Board of Education's Program of Requirements for small primary schools.

The facilities provided in this Program of Requirements are in keeping with the current emphasis on the development of individual competence, the ability of young children to comprehend basic concepts, the encouragement of self-learning. Concomitantly, the program is adapted to a series of developing instructional techniques; cooperative teaching, flexible scheduling, use of specialists, technological aids, and independent study and discovery.

The chief physical features of this program are:

1. "Open-space" learning complexes: Each area of about 3,000 sq ft consists of a large open space, small group rooms, resource space, a staff office, storage, and toilet rooms. The open area is carpeted and furnished with room dividers and various storage cabinets on which are mounted chalkboard and display board. Provision is made for conversion into separate classrooms if these should be desired in the future.

2. Large group and play area: A 2,500-sq-ft space separate from the learning complexes, which can be used by students or adults as a place of assembly, or for large group lessons, or for exhibitions, or as play space. Included in this cluster is a music instruction room which can be transformed into a stage by opening the curtain that separates it from the large group room.
3. Special rooms for: multi-media center  
speech/reading instruction  
handicapped pupils  
food service
4. Offices for: administration  
guidance  
staff preparation and rest  
health service  
community activities
5. Outdoor play space - including special early childhood area.

This program is suitable for adaptation to a variety of situations:

1. For a new structure on a small site occupying only a portion of a typical block
2. As a section of a larger structure under a joint-occupancy arrangement
3. On the lower floor or floors of an apartment development
4. In a structure converted from some other use, such as a warehouse, hotel, supermarket, factory

Underlying the whole concept of the small school is an awareness of the certainty of change -- in children's styles and requirements, in educational practice, in the nature and demands of the community. Instead of calling for an "educational monument" so huge and so expensive that the community is compelled to use it for three-quarters of a century, this program outlines educational space which can be readily adapted to new needs and new

methods as they may develop next year or five or ten years from now. The architect is specifically directed to plan the space for easy conversion to noneducational uses in the event that the movement of people or changes in educational style make the retention of this space unnecessary. Thus the school district would be able to recover its equity in a property, or terminate a lease without financial penalty.

#### Notes on Total Space

- A. The building should be designed so that it may at any time be converted to other public use or be transferred to private auspices for commercial, industrial, or residential use. It is not to be assumed that it will function as a school for any predetermined span of years.

The exterior design may be blended into the community with no requirement that the building bear an architectural stamp of "school".

- B. The gross floor area should not exceed 35,000 sq ft.
- C. It is preferable to restrict the height to three stories. Priority choices for location on the first floor area: Early Childhood Learning Complexes, Administrative Spaces, Service and Maintenance Areas.
- D. All instructional and administrative areas should be carpeted and the entire building should be airconditioned.

#### Notes on Individual Spaces

Facilities should be designed so that areas can be arranged for the learning of science and of art individually and in groups; each area to be provided with water and electricity.

Acoustics: The complex should be designed so that varying-sized groups of children can function within the area without sound interference, even if there are no walls separating them from each other. The acoustical treatment must make it possible for a teacher to be heard by the entire group meeting together.

Walls and other separation:

1. Rigid walls within the complex should all be of the demountable type so that periodic rearrangements may be made.
2. Walls and other separators should have surfaces suitable for use as chalkboard and for display and projection.

Copies of the complete Program of Requirements can be obtained from: Division of School Planning and Research, New York City Board of Education, 110 Livingston Street, Brooklyn, N.Y. 11201.

The open-space learning complex has an advantage not previously mentioned. It is an effective tool for both student and teacher supervision, and teacher training. The School Space Study Committee observed that there was an unusually high level of "good manners" in open-space complexes and a lower incidence of disciplinary action.

The possibilities for effective teacher training are increased in an open-space complex. A supervisor can informally view the activities of several teachers at once. Students quickly become accustomed to different adults so that the presence of a supervisor causes no special stir. In addition, teachers can observe other teachers with ease. Teachers have commented that they must work harder, nevertheless most of them in open complexes said they wouldn't want to return to the closed classroom.

The School Space Study Committee urged districts to arrange

visits of parents and staff to open-space complexes in order to get a better understanding of how they work. Also the Committee has urged districts to operate or affiliate with teacher and paraprofessional training programs in order to maximize the potential offered by open space. Districts 8 and 10 in The Bronx have already done so.

Districts with open-space facilities will then be able to offer that option not only to students but also to teachers who want to abandon the egg-crate classroom.

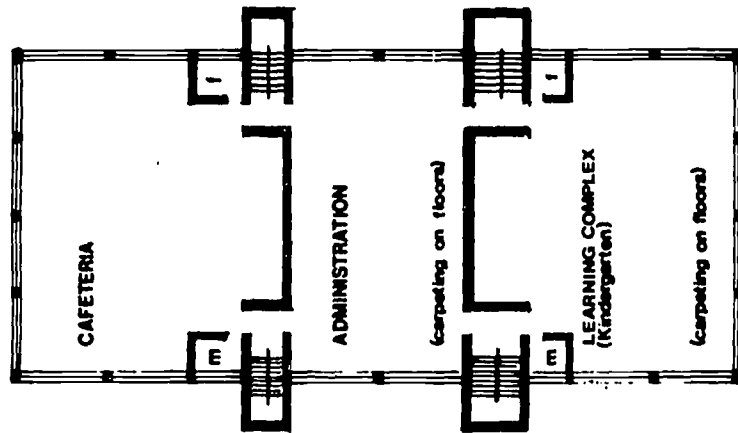
Open-space learning complexes can be found at:

1. P.S. 211X  
560 East 179th St.  
Bronx, N.Y. 10457  
Miss Carmen Rivera  
Principal
2. P.S. 6X (annex)  
708 East Tremont Ave.  
Bronx, N.Y. 10457  
Mr. Kirschenbaum  
Asst. Principal
3. P.S. 26X (annex)  
85 W. Burnside Ave.  
Bronx, N.Y. 10453  
Mrs. Della Lee  
Asst. Principal
4. P.S. 219Q  
Main St. and Gravett Rd.  
Flushing, N.Y. 11367  
Mr. Duke  
Principal

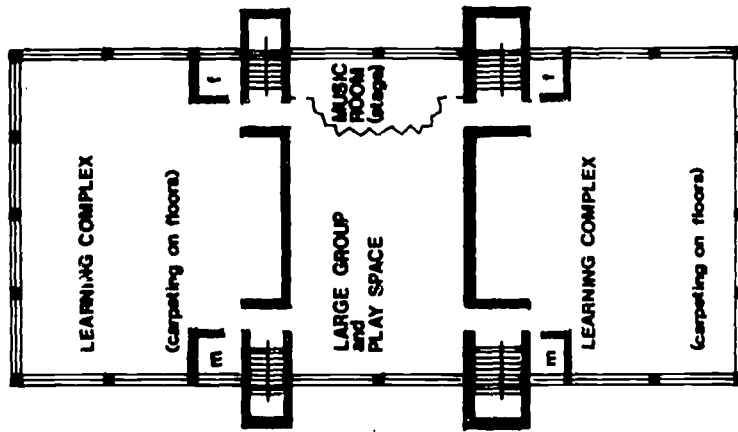
Design: Preliminary sketches drawn for small schools demonstrate flexibility of program and site. The Program of Requirements calls for 65 sq ft (gross) per elementary school pupil, and 75 sq ft per intermediate school pupil. In an elementary school for 500 students, this would give a total of 33,000 sq

# SMALL SCHOOL CONCEPT

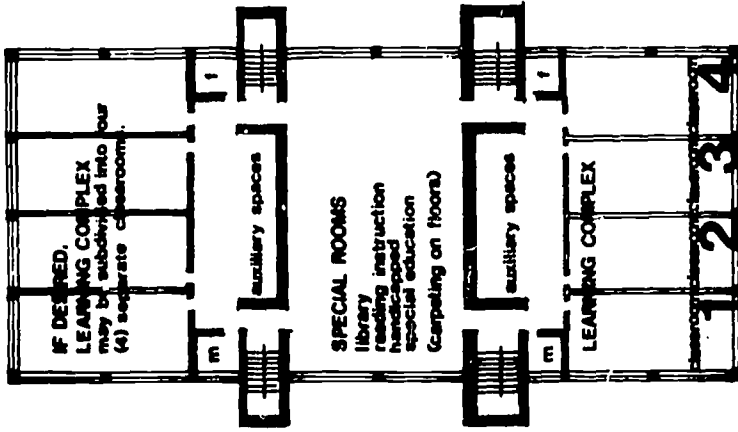
DESIGN BY mark i kauffman



1 floor schematic



2 floor schematic



3 floor schematic

CAPACITY 600

SCALE 0 10 20 30 40

ft, or a ground coverage of 11,000 sq ft for a three-story building. If the site size is approximately a half acre, the school would have an outdoor play space of between 8,000 and 10,000 sq ft, depending on the zoning requirements.

The main design thrust of the small schools is for a functional, simplified plan allowing for the basic parts to be fitted together to meet a particular site configuration, like an erector set. Thus one of the sketches calls basically for 9 units of space which can form a rectangle, a "U" or an "L", depending on the site, size and shape, and building height.

The interior design is based on the assumption that most or all of the circulation can be handled vertically by stairways, thus removing the need for interior corridors. The architect is instructed to allow for the possibility of classroom divisions but to maximize educational space and minimize circulation space.

The flexibility of design also enables the school district to have a maximum input concerning the layout of space for different educational approaches, such as bi-lingual, career education and individualized instruction.

The design and the Program of Requirements also raise the issue of what is done in school spaces. The School Space Study Committee asked supervisors and teachers about the use

of such spaces as auditoria and gymnasia, and concluded that the City already has adequate facilities for neighborhood recreation and assembly, and that the need no longer exists to provide these facilities in each and every new school. Thus, the small schools call for a "large group and play area" which can accommodate play and assembly activities for the school. This allows a district to provide more capacity for its approved budget funds. The five districts planning small schools can develop up to four small schools from an original budget line for one large school. The four elementary schools will have a total capacity of 2,000 students instead of 1,500; the intermediate schools will accommodate 2,400 students instead of 1,800.

#### Future Applicability of Small Schools

The School Space Study is not recommending that all schools in the future be small schools. In general, the Committee hoped that by offering realistic options to the current method and style of facilities planning, the City would realize that there are a number of ways to provide educational facilities. There may well be times when the City wants to build larger schools with a full complement of facilities. This option should continue to exist if funds permit. However,



it should be only one in a series of options.

For those districts that want to move in the direction of small schools, there will be basically three approaches:

a) use a line that already exists in the Capital Budget for site or planning money to develop as many small schools as are necessary to meet overcrowding; b) use an existing line to develop several facilities options to meet the needs of the district; or c) request approval for a new budget line specifically for the development of a single small school. The simplicity of design and the relative ease of site selection and clearance should reduce the time between origin and completion of a small school, thus making the planning process more responsive to actual enrollment growth.

Actual building for immediate needs is more reliable, in light of urban mobility, than the 5 to 10 year projections used in the current planning process.

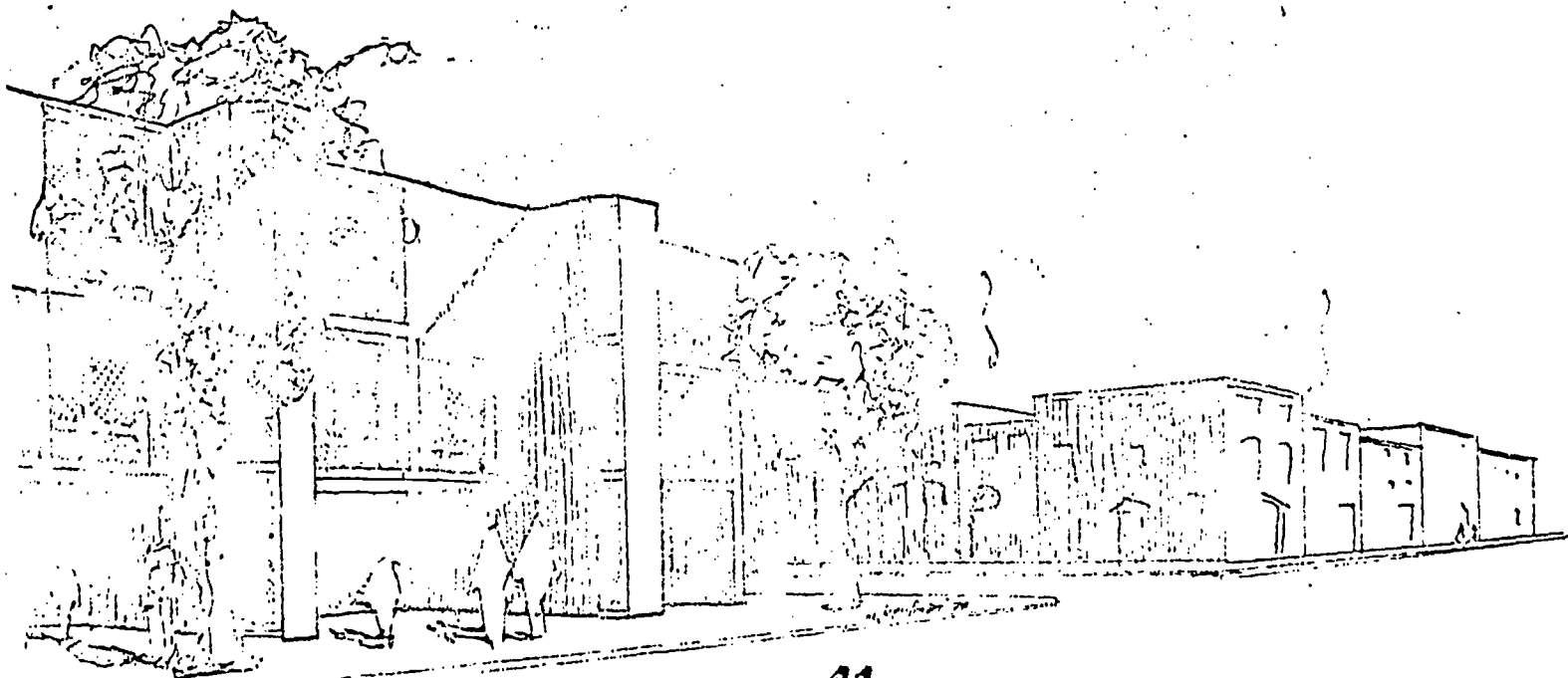
For information on small schools, contact:

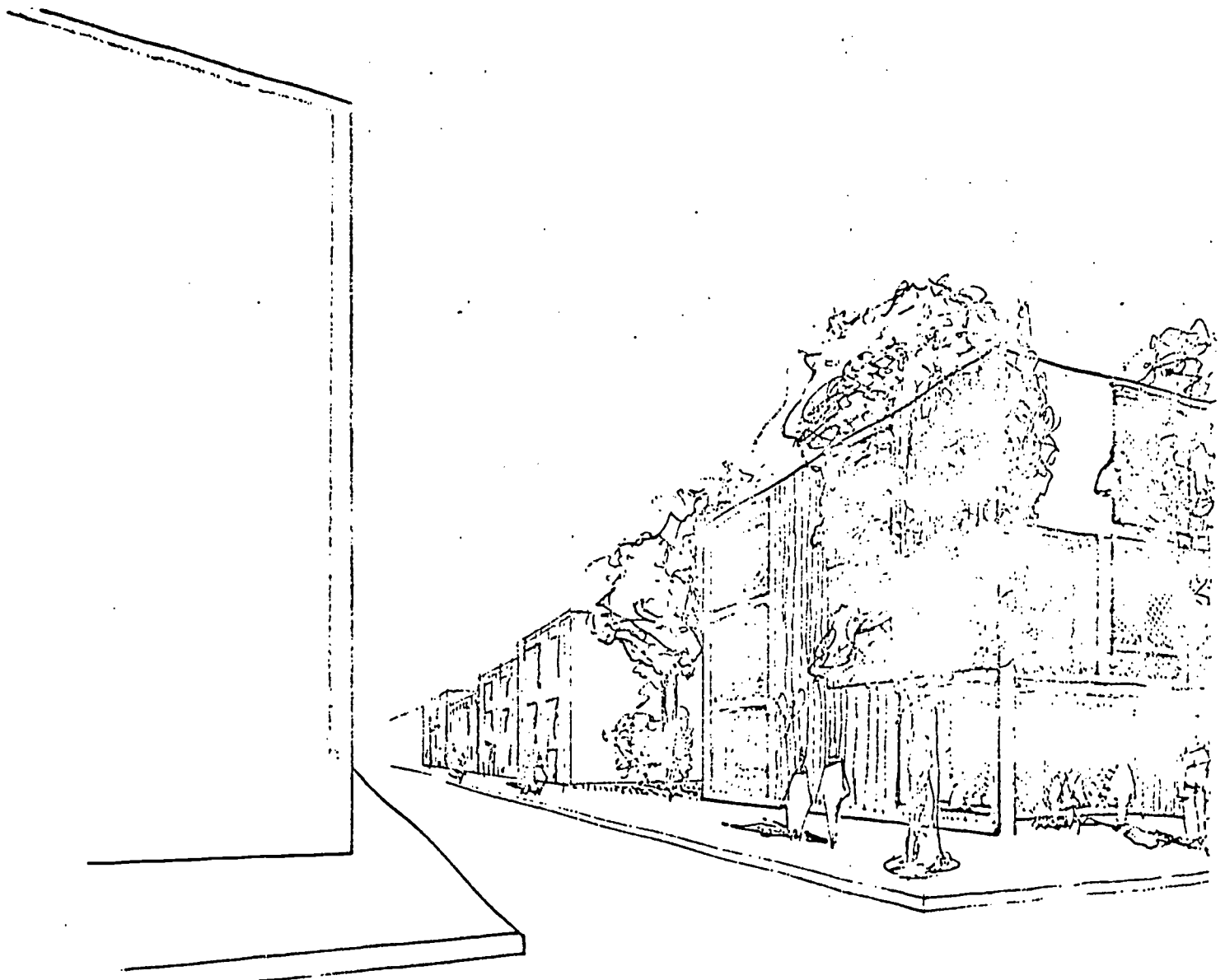
Dr. August Gold, Administrator  
Division of School Planning and Research  
Board of Education  
110 Livingston Street  
Brooklyn, N.Y. 11201

Mr. Ted Wolner  
Department of City Planning  
2 Lafayette Street  
New York, N.Y. 10003

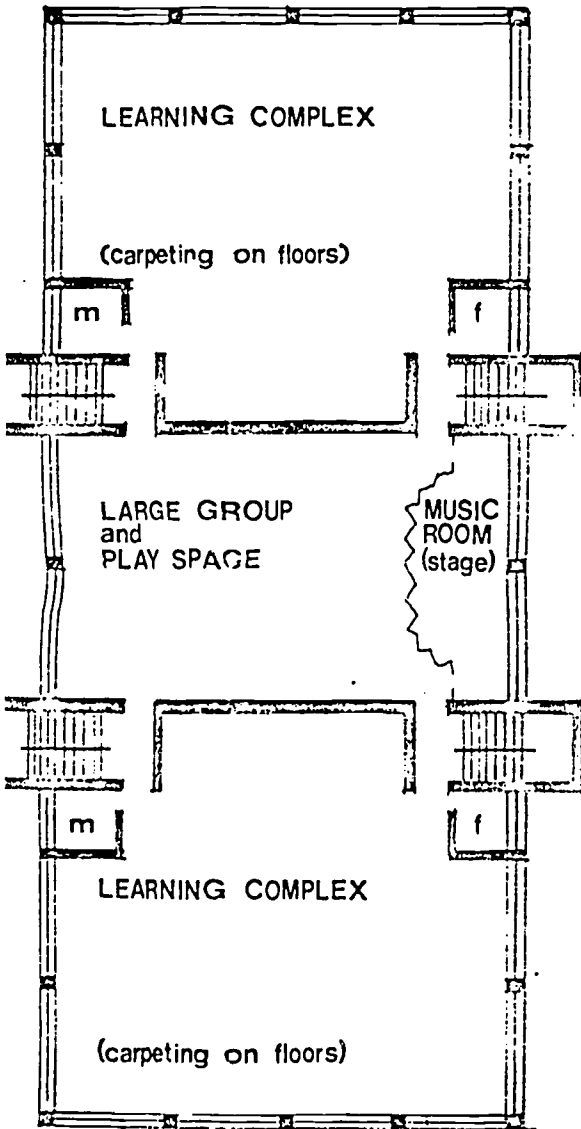
Central

SCHOOL

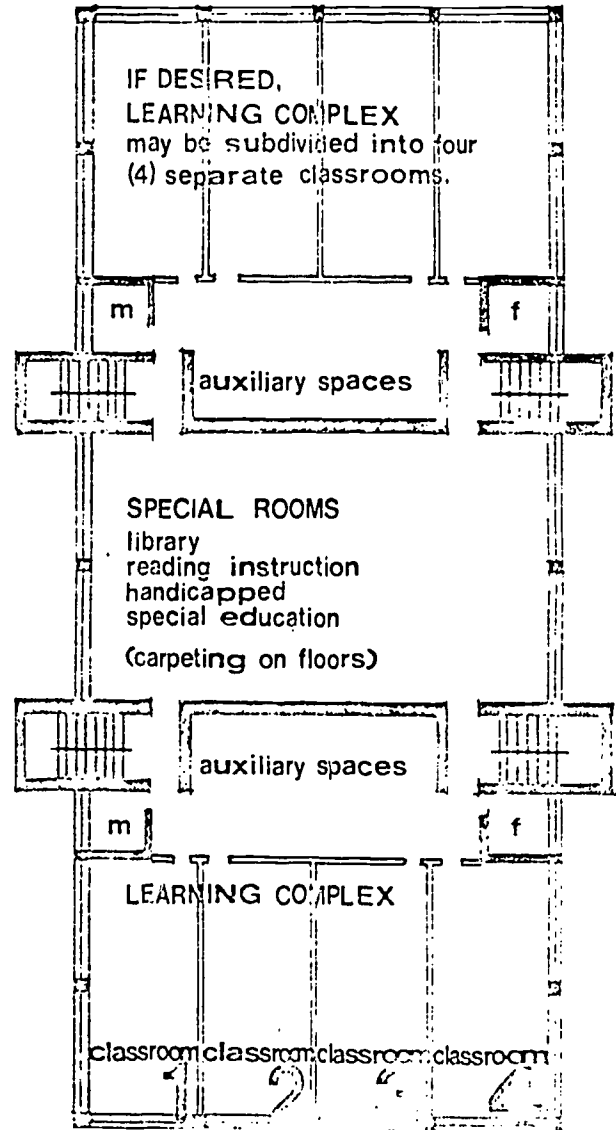




# SCHOOL CONCEPT

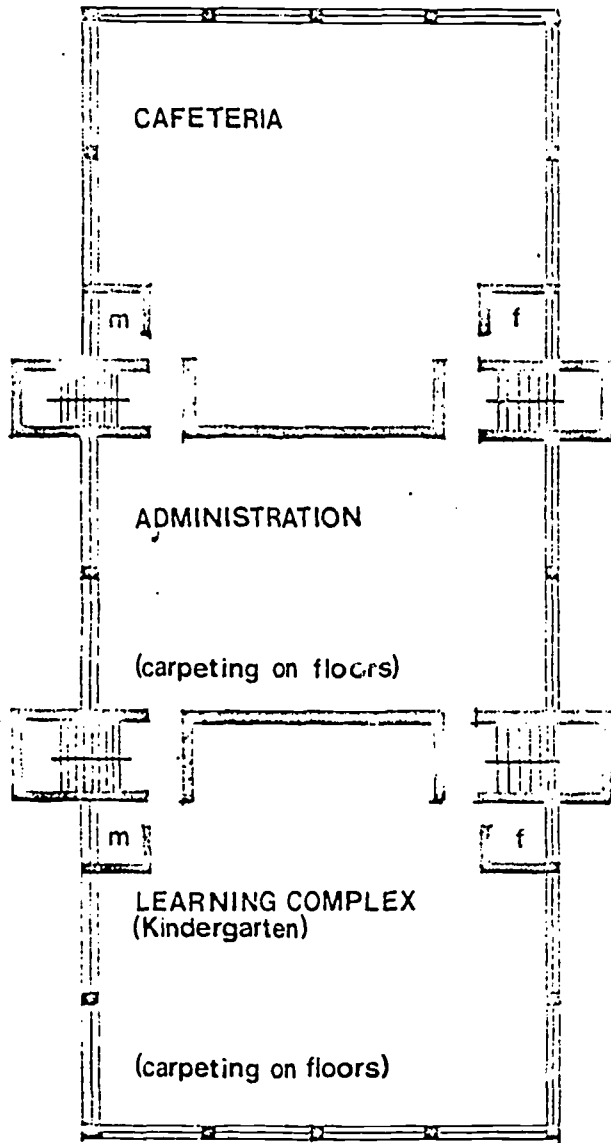


2 floor schematic

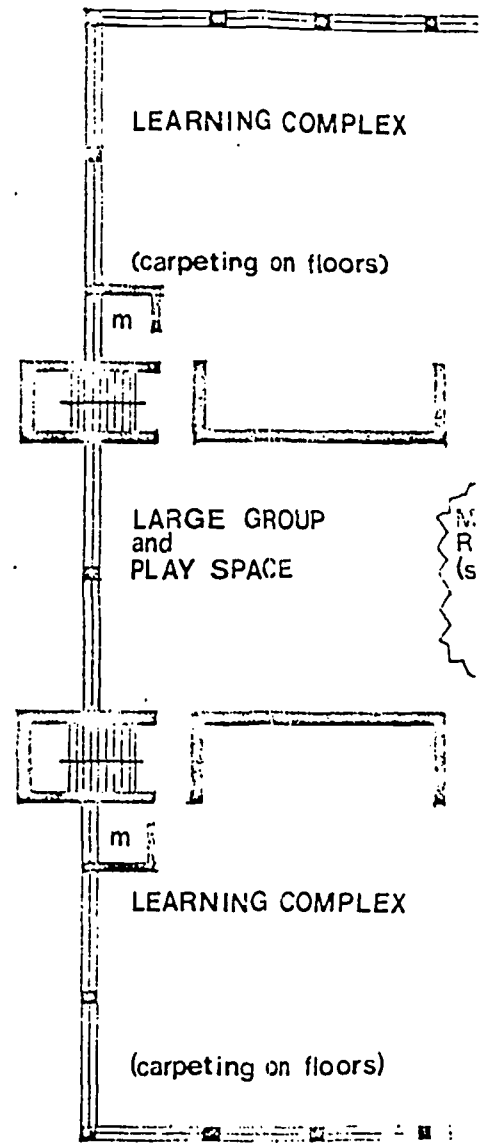


3 floor schematic

CAPACITY 600



1 floor  
schematic



2 floor  
schematic

## B. SCHOOL SPACE IN APARTMENT BUILDINGS

### Background

Need for school facilities: A substantial amount of the enrollment growth in some areas of New York City has resulted from the construction of new apartment complexes. The usual pattern is for the housing to be completed and occupied long before adequate school space can be constructed to accommodate the children of the new residents. This has led to residents of several areas of the city opposing the construction of new housing until there are guarantees of adequate supporting services.

Educational Construction Fund: There have been several attempts to remedy this situation. The New York City Educational Construction Fund was set up in 1966 as a mechanism for building schools in conjunction with other uses, such as offices and apartments, with the income derived from the projects contributing to the cost of the schools. ECF has worked on the basis of building a full-sized school, which has led to site difficulties. Also, the non-school portion of the development has not always been able to make the school self-supporting. However, the first ECF school opened in September, 1971 (P.S. 126 in the Highbridge section of the Bronx), and the City has other ECF projects in the planning stage.

City housing agencies: There are also a few instances where the Housing Authority has agreed to build separate space for school use alongside a housing project. Examples of this are the Penn-Wortman Houses in Brooklyn, the Forest Hills development in Queens, and a project at 180th Street and Monterey Avenue in The Bronx. These spaces are then leased to the Board of Education.

Request from the Chancellor: Neither ECF nor the occasional Housing Authority school is able to meet the need for school space to serve new apartment buildings on a systematic basis. In April, 1971, Chancellor Scribner wrote to Donald Elliott, Chairman of the City Planning Commission:

"Given the need to provide each student with a full day of school in quality space, the high costs of new construction, the difficulties of relocation to clear sites, the extent of overcrowding in many of the city's schools, the large number of proposed housing developments and the desirability of smaller educational units, I am respectfully requesting the City Planning Commission to require, as a matter of policy, that all developers of housing provide space for education in their projects.

"Such a policy, continued over a period of years, would enable the city to absorb large numbers of students generated by new housing who, under the present system of constructing schools, face an inordinate lag between the need for space and the reality of getting it. Use of an "open-space" school design would enable the developers to have easily reconvertible space if and when the need no longer exists for the Board of Education to lease it. I have been assured that the provision of school space would in no way increase the overall costs of the building provided the developer is aware of this requirement in advance.

"In conclusion, I feel strongly that no new housing developments should be built in New York City without the inclusion of space for education. I hope to enlist your cooperation in approving and announcing such a policy."

This request was supported by a letter from Walter J. Degnan, President of the Council of Supervisors and Administrators of the City of New York:

"The CSA urges you to give serious consideration to the proposal that all new apartment houses of a specific minimum size be required to allocate educational space. This proposal may provide a realistic approach for dealing with the serious financial problems presently confronting the New York City school system.

"Requiring educational space in new apartment houses also should help to eliminate the waiting time that currently elapses between influx of residents and construction of new schools. This time lag results in serious overcrowding and often necessitates long trips for children going to school, thereby impeding the effective functioning of the school system. Moreover, there is equity in asking that those who make a profit by adding residents to a neighborhood be required to contribute to supplying the services that the new residents will require.

"A variety of new educational approaches involving use of smaller schools, mini-schools, and satellite schools are currently being effectively used as a way to reach the children in our school system. The allotment of educational space in apartment buildings would be ideal for such programs..."

Proposed memorandum of agreement: The interest of the Chancellor in school space in apartments and the move toward smaller units and alternate school facilities encouraged the City to investigate the proper method for implementing such



an approach. At present the City is in the final stages of approving a set of administrative proposals which will result in an agreement of understanding among the City Planning Commission, Board of Education, Housing Authority, Housing and Development Administration, Bureau of the Budget and any other operating agencies involved in public or publicly-assisted housing. The agreement will mandate the provision of school space in a housing project when there is the need for the space, subject to the conclusion of financial arrangements between the Board of Education and the housing agency. A minor zoning text change by the City Planning Commission is a part of the plan.

#### Advantages and Features

Planning: An agreement to include school space in apartment buildings where needed will help school districts to keep pace with the growth in student enrollments. It will also solve the difficulties of site selection for a school, because the school space will be included in the apartment building itself. The major zoning issue, the layout and use of outdoor recreation space, has been solved by mandating that the outdoor open space will be accessible and available for both residents and school use.

Design: The Board of Education is asking that the space be located in the apartment structure itself, perhaps on the first and/or second floors. The Board has developed several requirements and design criteria which include:

1. The educational program will be based on an "open space" concept. There will be no need for partitions; there should be as few structural columns as possible; however, structural system cost should not be increased in order to reduce the number of columns.
2. There should be a minimum of 6,000 sq ft.
3. The school space must conform to the requirements of the Building, Fire and Health Codes; in particular, the provision of "public assembly" must be observed concerning exits, floor loads, and air changes.
4. There must be one toilet for every 15 students. The toilets may be provided in bathrooms conforming to the apartments above. (1 toilet is the Health Code requirement for every 15 kindergarten or pre-kindergarten children; 1 toilet for every 30 children in higher grades. Since this space is likely to be used for early childhood classes, the 1 to 15 ratio is recommended.)
5. Access to the school space should be separate from the entrance to the apartments and may be direct from school rooms to outdoors.

6. Play space must be designed for easy accessibility to the school space. Space must also be accessible to and usable by residents of the housing after school hours.
7. The school space should be airconditioned so that it can be used year-round.
8. The space should be designed and located so that when it is not needed for a school, it can be converted to another use.

None of these items will cause delay, provided they are all known at the initial stage of the project development. The school space is designed to present as few difficulties to the developer as possible. In its simplicity it is another example of a combined use of open-space learning, small unit size leading to quick delivery, reduced costs and quality space appropriate for conditions in urban areas.

Example: A number of developments in preliminary planning stages are being considered for school space. An excellent example of operating school space in apartment buildings in New York City is The Acorn School, a private Montessori school. The architects, Mayers & Schiff, describe the space as follows:

The school is located on the ground floor of a new apartment building, immediately adjacent to an outdoor plaza. The space originally intended for use by physicians and dentists, consists of one large undivided space of 5,100

sq ft. Its form is that of a large rectangle with two "finger" spaces leading off it. The peripheral exterior walls are of exposed concrete block. Concrete columns, ceiling and floor are all exposed. Due to its ground floor location, many pipes and conduits run across the ceiling. The space is a "found" rough space with no existing services. A high strip of windows runs along the outside walls. As is often the case, funds were extremely limited. The school would certainly benefit if as many of the design elements as possible could provide multiple use.

After careful observation of the school's daily program, discussions with staff, children, administration and parents, the architects started their work.

The architects were impressed with the quality of the large, undivided space. The central impression carried by the school's program was that this central space should be preserved as the functioning heart of the school. The program calls for three upper school groupings (1-2; 3-4; 5-6) of approximately 25 children each, plus a separate nursery-kindergarten area for two sessions of 22 students each. The large central space contains the three upper school groupings plus the media center. The block walls are furred out and covered with "healing" vinyl, which

serves as tackboard. Art walls are lined with colorful plastic bins which hold paint and are removable for washing. Fluorescent lighting is accented with incandescent spots mounted on pipes hung from the ceiling, thus adding warmth and definition. Highlights and color accents are provided by colorful plastic storage bins mounted on rails along the walls and on built-in shelving. These are used for storage and for instructional purposes (contain objects starting with the letter "B", etc.). Each student has his own large colored plastic bin in which he stores his artwork.

The central media area is made up of standard builder's aluminum movable scaffolding in modules of 4'-6" x 6'-0". Each of these scaffold modules is outfitted for specific purposes: storage shelving, vertically adjustable study carrel desks, double-decker upholstered "lofts" (treehouses). These scaffolds are outfitted with clamp-on spotlights, tape recorders, etc. Movable urethane "data bank" carts are wheeled up to the scaffold carrels and slides are projected on the backs of the shelving above the desks. Scaffold modules can be rolled away, rotated, or rearranged in many ways to change the character and the function of the space. The central part of the media center is furnished with upholstered "superloop" sofas which can be formed into

sofas, "benches" or innumerable other forms by the children. Incandescent lighting adjusted by dimmers affords warmth and a variety of lighting effects. The entire space of the open classroom and lower school is carpeted. The carpeting is an integral part of the educational concepts of the school, providing warmth, homelike atmosphere, informality of sitting areas and sound absorption in the large space.

Hospital cubicle track is suspended from the ceiling at a height of seven feet above the floor. The track forms a large circle and various zig-zags. The architects designed several "movable fabric space dividers" which hang from this track. The children can pull these dividers along the track to form subdivided areas at will. The track runs along the edge of a row of scaffold modules so that children can draw these fabric dividers in front of a study carrel to provide privacy within the carrel module.

One of the long "finger" spaces is used as a multi-purpose room, outfitted with coat hooks, boot rack, refrigerator and stove. The other such space is used as office area for the director, teacher preparation room and entry vestibule. So that the administration can be "accessible" to the children at all times, sliding safety glass doors were used in lieu of standard wooden doors. For privacy, behind these glass

sliders, the architects have designed colorful curtains with graphics that read: "Staff" and "Director".

The architects either selected or designed all of the furnishings in the school. Among items included are low movable panels faced with "grab-fab" (Velcro). These can be used for displays of books, sewing, etc., and can be used as relocatable space subdividers. There are movable white chalkboards, lightweight stackable plastic seats, adjustable height desks and study carrels and bright yellow urethane storage units.

The nursery contains a sound isolation room with a plexi-glas view panel for children who want to play musical instruments or engage in other noisy activities. The nursery's carpeted steps are where the children sit to hear stories or watch displays on the chalkboard wall opposite. This wall is lit by two unusual truck docking lights on dimmers.

The pipes and ducts on the ceiling have been left exposed and have been labeled with vinyl lettering. Teachers can point out to children the many complex mechanical functions usually hidden in an apartment building.

#### Future Applicability

One option: This space is not intended to be solely for the use of students who live in the development. Rather, the Board

of Education intends that the school space will be for the general use of the district.. For example, if a 600-unit development will generate 400 K-8 children in an area of overcrowding, the housing should provide 400 spaces to be used as the district directs (perhaps K-2 or K-3) for children from the district area as well as the housing.

Where there is a great amount of housing going into an area, the district may well choose to request a new school or schools to supplement the school space in the housing or to ultimately replace it. Other districts may use the school space in apartments as a permanent solution to space problems. As with other options, the School Space Study Committee recommends that the districts be able to make the choices that best meet their needs.

Marketability: The existence of school space in housing should increase the attractiveness of a developer's project. The space would increase the possibility that the younger children would not have to travel distances to school.

Public policy: The adoption of a policy of including school space in apartments where needed is a solution designed to meet the problems of providing educational facilities in urban areas. The public benefits from the cost savings and avoidance of



relocation difficulties, as well as the ability to provide services when needed.

For current information on schools in apartments, contact:

Dr. August Gold, Administrator  
Division of School Planning and Research  
Board of Education  
110 Livingston Street  
Brooklyn, N.Y. 11201

Mr. William Roszbach  
Department of City Planning  
2 Lafayette Street  
New York, N.Y. 10003

## C. FOUND SPACE

### Background

The use of non-school space in the New York City schools has been increasing over the last few years. Currently more than 977,000 sq ft of non-school space is being used by the school system for administrative and educational functions. This is done on a rental basis at a cost of over \$6 million, for an average of \$6.00 a sq ft annual rent. One of the findings of the School Space Study Committee was that previously the use of rental facilities usually involved cumbersome and expensive renovations designed to make a space look more like a school than a school. Renovations made on some of the spaces far exceeded the value of the building, particularly on short-term leases of under five years.

The initial purpose behind the use of non-school space was to relieve overcrowding quickly while waiting for new construction to be approved and completed. Through insistence on extensive renovations, the speed was often lost, and the program grew to massive proportions with tremendous costs. The School Space Study Committee has sought to demonstrate that space can be used "as is" quickly and at a reasonable cost.

### Advantages and Features

Urban planning: Found space offers the opportunity to combine open-space learning and small units with recycled urban space. Any city has a variety of elegant old buildings, warehouses, bowling alleys, private schools, hotels, office space and other buildings which lie vacant or poorly used. Most of these spaces can become quality educational space if they are structurally sound, meet zoning requirements and are located close to the area of need. The recovery of this kind of space is an essential part of urban rejuvenation. Rather than being left to stand as a reminder of things past, these spaces once again can become a central feature of urban life and service.

Delivery time: Use of space "as is" would mean that it could be used as educational space not long after being identified as usable space. "As is", however, should not be taken literally; it means using the space with as few renovations as possible: only those necessary to bring the building to health, safety and fire code specifications, and to prepare the space for a particular type of program. The latter can often be done, using furniture and portable facilities, such as science and art tables or language lab cassettes. For example, if a building needs a fire alarm system and panic bars on its doors to qualify for a certificate of occupancy, those renovations

must be done prior to occupancy. If in addition the space needs some rewiring for a particular area, this can be done while some children are using the space.

Costs and guidelines: To avoid the high costs of renovation on both short- and long-term leases, the Space Study Committee drew up guidelines which were discussed and accepted by the Office of School Buildings of the Board of Education:

- . All renovation should be kept to a minimum. Initially only those alterations necessary to comply with codes should be undertaken. Subsequent minor improvements can be done while a building is in use.
- . Renovations should be kept in the \$3.00 to \$5.00 per sq ft range whenever possible. This is particularly the case on short-term rentals. Equipment, carpeting, fixtures, materials, etc., are not expected to last 75 years.
- . Whenever possible, repair instead of replace.
- . Whenever possible, use space "as is".
- . Whenever possible, employ furniture items in place of fixed installations.

Obviously the rental rate will depend on the location of the space. Rentals in New York City run from just over \$1.00 to upwards of \$8.00 per sq ft. The decision whether or not to lease will depend on both the basic rental and the cost of

renovations. If renovations run too high and involve excessive time spent on conversion, the best course is to find another space requiring less repair.

Warmth: Many of the existing buildings in urban areas have a richness of design and interior decoration that, even slightly worn, is far superior to what would be built today. This is particularly true of catering halls, hotels, office buildings and private schools. Every effort should be made to retain such features as chandeliers, mirrors, wall fixtures, furniture, carpeting, reception areas, wallpaper, etc. These items can add greatly to the character and attractiveness of a space, particularly when compared to the institutional nature of most schools.

Combined with the characteristics of the existing building, new kinds of furniture (sometimes called systems furniture) can be introduced to enhance the flexibility and functional qualities of the space. Bright functional furniture also lessens the institutional tendencies of the found school space.

There is no evidence that students learn better in found spaces, but preliminary evaluations indicate a positive reaction to these spaces: low rates of vandalism, high attendance, parent involvement and low teacher turnover. Visitors are impressed by the students' apparent joy.

## Examples

### P.S.26 (Bronx) Annex (formerly Burnside Manor Catering Hall)

Burnside Manor was an old, well-established hall which had catered Bar Mitzvahs, weddings, and testimonials for several generations. By reputation, it served the best roast chicken in The Bronx. As the neighborhood changed and the owners looked forward to retirement, the local school district proposed that Burnside be rented by the City for use as school space. The initial estimates of the Board of Education showed that renovation costs of the 33,000-sq-ft building could run as high as \$350,000. The Board's plan called for removal of the chandeliers, carpet, portable bars and mirrors and replacing them with partitioned classrooms, fluorescent fixtures from a hung ceiling and a frozen food kitchen instead of the catering equipment.

District 10 in the Bronx asked the School Space Study Committee to look at Burnside Manor and see if there might be a way to use the building without such excessive renovation. The Committee found that Burnside offered an excellent example of how non-school space could be rented quickly and inexpensively and still provide superior educational space.

Through work with the Office of School Buildings, the cooperation of Arthur Levine at the Comptroller's Office, and

with the backing of the Community School Board, the original estimate of necessary renovation was brought down to \$35,000 (about \$1.00 per sq ft). This dramatic reduction was a result of the following:

- . the space needn't look more like a school than a conventional school.
- . many of the existing furnishings (such as mirrors, chandeliers, movable bars, carpeting and chapel benches) could be left.
- . the existing kitchen need not be replaced by a frozen food kitchen.
- . the existing wiring would easily support 30 footcandles; that 60 footcandles were unnecessary and represented an excellent case of overbuilding by the Board. Existing bulbs could be replaced with increased wattage where necessary\*
- . the existing ballrooms should remain open for use as open-space learning complexes with no need for expensive partitioned classrooms.
- . there was a need for several new toilet fixtures in addition to the existing ones, but not for entirely new fixtures.
- . there is no need for a bell, clock or P.A. system.

\*Although it may be preferable for new schools to have more than 30 footcandles of light, 30 in found space is quite adequate and can, if necessary, be supplemented by spotlights and reading lamps.

Burnside Manor opened as P.S. 26 annex on January 3, 1972, with 120 students. The total enrollment will be 200 to 350. Through an EFL grant, the school supplemented its traditional equipment with exciting pieces, such as new forms of chairs, physical education equipment, a Ferris wheel bookcase and space definers. On January 17, 1972, Chancellor Scribner and Dr. Harold Gores, president of EFL, visited Burnside Manor as part of a tour of alternative spaces. They were delighted by the physical and educational aspects and expressed the hope that other such "recycling" of space could be done throughout the City. The TV and press asked the children how they liked the school. Responding that they like it very much, they said they particularly liked the chandeliers. (See Appendix C for copies of the news articles following the tour of found spaces.)

Even with time-consuming lease negotiations and City approvals, Burnside Manor was opened just over a year from when the School Space Study Committee first was asked for help by District 10. Construction of a school would have taken between 3 and 7 years. Other "found spaces" should be usable as quickly or more so, as the City becomes more and more familiar with found space and the principle of using space "as is" whenever possible.

For more information on P.S. 26 Annex, contact:

Dr. Theodore Weisenthal, Community Superintendent  
School District #10  
3961 Hillman Avenue  
Bronx, N.Y. 10463



### P.S. 211 Bronx

P.S. 211 was formerly a dress factory, a flower factory and a halvah factory. The building opened in 1969 as a bilingual school for 600 inner-city elementary students.

Although the School Space Study Committee had nothing to do with the planning or furnishing of this converted factory building, the Committee was inspired by the excellent results and has urged that parents, teachers, and staff interested in open space design and learning and the use of found space visit P.S. 211. The school has received so many visitors that it now has a regular visiting schedule on Tuesday mornings.

P.S. 211 has retained the large industrial spaces. The floor is carpeted and a hung ceiling has been added. The space is divided only by low furniture. Children sit on the floor or at tables and meet in small or large groups, or occasionally work individually. The atmosphere is relaxed and informal, yet the students' powers of concentration are remarkable. They scarcely give visitors a second (or perhaps even a first) glance. School officials report that absenteeism and vandalism are lower than in other schools and that there is a very low rate of teacher turnover. Parents are also pleased with the school and participate extensively in school meetings and projects.

For more information on P.S. 211, contact:

Miss Carmen Rivera, Asst. Principal  
P.S. 211  
560 East 179th Street  
Bronx, N.Y. 10457

School for Pregnant Girls, Queens

A former beauty school is presently under consideration for use as a school for pregnant girls. The school contains about 12,000 sq ft divided by partitions into office space, instructional areas and lounge areas. The beauty school left airconditioning equipment, level floors, blackboards, a hung ceiling and an abundance of lighting fixtures. The Board of Education's initial estimate of the cost of converting this space for a short lease was \$347,000. The estimates called for a new ceiling, soundproofing of the windows (the school fronts on a main street with an elevated train), new flooring, new blackboards, a vast amount of storage space, new kitchen equipment, a new airconditioning system, a complete overhaul of the existing lighting and wiring, a public address system (for 100 to 150 students), an intercom, etc. At that rate, the renovations would have cost nearly \$30 a sq ft, exclusive of basic rent.

After several meetings with advisory council representatives and the head of the School for Pregnant Girls and the

staff of the Reconstruction Section of the Board of Education, the estimate was revised and reduced to \$46,000. This was possible because the representatives of the School for Pregnant Girls asked that the space be used insofar as possible "as is". They argued that there was no need for soundproofed windows; if the noise was great they would make curtains. The airconditioning and lighting were more than sufficient for their needs. Floors and steps could be patched, not replaced. The equipment needn't be the finest as long as it was functional.

The Reconstruction Section at the Office of School Buildings was most willing to cooperate in giving realistic cost estimates of necessary renovation and repair work, once it was brought to their attention that jobs with excessive costs could never be undertaken. The Section was asked to give estimates in terms of using the space "as is" with necessary code repairs, even though the final product may not look much like the conventional image of a school. Thus the School for Pregnant Girls in Jamaica can be renovated in a short time at a cost of less than \$4.00 a sq ft. At that price, no city could afford to pass up the opportunity.

For current information on the Jamaica school, contact:

Dr. August Gold, Administrator  
Division of School Planning and Research  
Board of Education  
110 Livingston Street  
Brooklyn, N.Y. 11201

### P.S. 232 Bronx

P.S. 232 in District 8 in The Bronx was the former Bruckner Bowling Lanes. In 1969, the Board of Education's estimate for the renovation of 58,000 sq ft was \$670,000, or about \$12.00 per sq ft to divide the 2-story bowling alley into 31 eggcrate compartments. Tobias Sumner, the principal of P.S. 232, is an enthusiastic advocate of found space, small schools, and open-space learning. He sorely regrets that he became principal of the school after renovations were begun. Whenever the opportunity arises, he points out that the Board of Education spent needless sums of money taking a large open space and dividing it into cubicles. He would have much preferred two large spaces on each of the two floors which would have enabled him to introduce large and small group work, individual instruction and the informal atmosphere of an open-space setting. The renovations have locked him into set instructional patterns.

In spite of the confining nature of the eggcrates (combined with a low-hung ceiling), Sumner has managed to create a somewhat relaxed atmosphere. This he attributes to several factors: the unusual nature of the building, even eggcrated; the smallness of the school, which allows the school to operate family-style; and the bright yellows and blues on the walls which remove much of the institutional feeling of school. The relaxed

atmosphere has had beneficial results; teacher turnover and absenteeism is very low; student attendance is among the best in the district despite the fact that 98% of the students have a long bus trip each day; PTA involvement is exceptionally high for any New York City school; vandalism has been negligible, and no false fire alarms have occurred. Mr. Sumner also praised the lack of an auditorium or a gymnasium. He has a large open space which serves for indoor play and assembly purposes, and allows for a greater flexibility in programming and activities.

For more information on what NOT to do in found space, contact:

Mr. Tobias Sumner, Principal  
P.S. 232  
930 Soundview Avenue  
Bronx, N.Y. 10472

#### Other Examples

There are several other examples of innovative use of found space in New York City, and there are an increasing number of requests for spaces of this kind to supplement or substitute for new construction.

- . District 12 in The Bronx is converting the old Fairmount Theatre into a museum and is using the office floors above it for district offices and the P.S. 61 annex. The school space is open and carpeted with furniture as space definers.

- . The City is in the process of acquiring the Institute for the Crippled and Disabled Building in Manhattan. It will serve as an annex to the nearby School for the Deaf and will be ready for occupancy shortly after the various city agencies conclude negotiations and approvals. The estimated cost of the building and site is \$2.5 million, one-third the cost of new construction.
- . District 9 in The Bronx converted a supermarket into a school. P.S. 88 has some conventional arrangements, some open space. The District is actively exploring other possibilities for expanded use of found space, such as a boys club, a catering hall and a bowling alley which they plan to use in its open form.
- . The Block School for Preschool Children is housed in a former synagogue in District 18, Brooklyn. The school accommodates 75 children age  $2\frac{1}{2}$ - $4\frac{1}{2}$ , and is designed for open education. Educational Facilities Laboratories has made a film of this project for use by other districts and educators interested in setting up special programs in found space.
- . Escuela Infantil del Barrio is a preschool program similar to the Block School. It is located in District 4, Manhattan, on one floor of a commercial structure.

- . Park East High School in Manhattan has turned the basement of an East Harlem church into the first of a series of dispersed units. Students, parents, staff and local contractors renovated the interior, which accommodates 150 students. The basement has a science lab, library, institutional areas, a lounge and offices.
- . The Alternate High School program (see High Schools section) is using spaces for 50 to 150 students scattered throughout the City. Most of the schools are converted storefronts or parts of commercial property. Instructions concerning the renovation of these spaces include carpeting, open spaces and "as is" usage whenever possible. The specifications exclude hung ceilings, public address systems, intercoms, and walling up storefront windows. The hope is that people passing the windows will look in and see productive, attractive education.
- . The Satellite Academies (see High School section) are using office and commercial spaces to house groups of 100 to 150 students. Currently, the two operating programs are located in downtown Manhattan in office buildings near the source of employment of the cooperating employers. When the program expands, other academies will be located in the outer boroughs near health

service facilities. The existing academies are an excellent example of the successful use of office space for schools.

1. If the expected use of the building is for 10 to 15 years or more, the financial advantages of leasing are likely to be cancelled by the length of the lease. The chart below compares the costs of leasing a 30,000-sq-ft building at \$3.50 a sq ft (including renovation costs) for 15 years versus purchasing the same building at a cost of \$1 million paid over 15 years, with 7% interest. A comparison is also made for the construction of a building of the same size at \$40 and \$50 a sq ft.

	Size	Source funding	Yearly payment	15-yr Total w/o int.	15-yr Total with int.
lease \$3.50/sq ft 1 yr (incl. renovations)	30,000 sq ft	expense or tax-levy funds	\$105,000	\$1,575,000	\$1,575,000
purchase cost \$1 mil- lion (incl. renovations)	30,000 sq ft	capital funds at 7% (.11 yearly rate)	\$110,000	\$1,000,000	\$1,650,000
new con- struction \$40/ sq ft	30,000 sq ft	capital funds at 7%	\$132,000	\$1,200,000	\$1,980,000
\$50/ sq ft	30,000 sq ft	capital funds at 7%	\$165,000	\$1,500,000	\$2,475,000

This example is intended to set up a method for comparison. The figures and outcome will differ in each situation. These are low to normal figures for New York City rentals, purchase and construction.



2. Regardless of the particular financial advantages, a city would be well advised to lease if the space is needed for less than 20 years. The purchase of a building to be kept in service for 50 to 75 years and perhaps not fully used would be much more expensive than a relatively costly lease that could be abandoned when no longer needed.
3. If the laws regulating budgetary allotments allow flexibility, alternating between the expense and capital budgets would allow urban areas to use bonding capacity when interest rates were low, and tax-levy funds when interest rates were high. A lease with an option to purchase arrangement could be explored to maximize opportunities to roll with market interest rates.
4. If leasing or purchase funds are available only through the use of capital funds, the interest rates on the bonds should be calculated when determining the advantages of found space versus new construction.
5. Considerations such as speed of occupancy, possibilities for converting a space into a tax revenue-producing property at the end of its use as a school, and possible savings on location problems should all be calculated in any lease-purchase-construct decision.

6. Costs of new construction should be constantly re-evaluated. In periods of escalating costs, lease or purchase of existing buildings might be most advantageous; in periods of stable building costs, new construction might be preferable (provided there are minimal site and relocation difficulties).
7. Even though leasing space is usually paid for with available funds (as opposed to future commitments of funds), the amounts can add up and represent ill-advised expenditures if a careful definition of leasing priorities and needy areas is not established. New York City is currently in that bind. There are a number of needed, inexpensive leases ready to be processed which are being delayed while other leases are examined for termination dates. A careful leasing program with a record of committed funds will avoid the crisis situation.
8. The lease-purchase-construct dilemma is not unlike that of an individual deciding now to finance a home. If he doesn't have the cash (bonding capacity) for the entire payment or a large down payment, it is to his advantage to lease and pay a small manageable amount each year. Cities, today, often don't have the "cash".

There are few absolutes in the debate of whether to lease, purchase or construct. The most desirable approach in an urban area would be to encourage a variety of facilities options in order to take advantage of different market, labor and urban conditions.

For current information on New York City found space projects, contact:

Dr. August Gold, Administrator  
Division of School Planning and Research  
Board of Education  
110 Livingston Street  
Brooklyn, N.Y. 11201

#### D. RENEWING SCHOOLS

##### Background

In the 1972-73 Proposed Board of Education Building Program, 86 schools were listed as being obsolete and recommended for replacement during the next six years. This represents more than 9% of all New York City schools and would affect more than 114,000 students. Of these 86 buildings, only 15 are partially or wholly non-fireproof structures. The only factor common to the rest of the buildings is that they are old. Some may have been poorly maintained. Others may have structural defects. Age has been the main and perhaps sole determinant of whether or not a building is "obsolete".

The School Space Study Committee challenged this definition of obsolete and questioned the advisability of listing schools in the building program as such. The fact that the Board of Education called them "obsolete" in a public document led the public to assume that these structures were indeed obsolete, when in fact many of them were just old. A reconsideration of which buildings should be replaced and which should be rejuvenated was requested by Chancellor Scribner and by the City Planning Department in the 1972-73 Draft Capital Budget.

A renewing approach should be carefully distinguished from normal or abnormal maintenance. In New York City a complete updating of electrical and sanitary systems to new code require-

ments limited educational changes and new furniture where changes occur. Giving a school new life seeks not only to upgrade the technical aspects of the school but also the educational layout and program. This kind of educational upgrading could be undertaken in the following ways:

- . use of the 15 ft ceilings in schools built before 1930 to create mezzanines along the sides of large spaces for use as resource centers, individual study areas and small group areas;
- . demolition of interior walls between rooms and adjoining corridors to create open-space learning complexes. By uniting four classrooms and the corridor between them and adding mezzanines along the sides, up to 50% more space can be created, space which can be adapted to modern, flexible educational techniques;
- . opening of archways into walls between classrooms, to create a feeling of open space without completely knocking out the wall;
- . painting the walls bright colors;
- . improving lighting through use of spots and individually focused lights in areas of individual or small group activities.

Plans for renovation of P.S. 54 in The Bronx, along these lines were developed by the architectural firm of Bond and Ryder. They have not yet been implemented because of a City restriction that no school can have major repairs more than once in 10 years. The plans, however will be adapted for other buildings built in the same era. A preliminary survey made of the Metropolitan Vocational High School in Manhattan, now used as a junior high annex, shows that an expenditure of approximately \$1.1 million could revitalize the handsome, solid old building for use as an intermediate or small high school. A program for identifying structurally sound schools for renovation is in development.

New York City is studying a method used by the San Francisco Board of Education in a general renovation plan for 31 schools. The method was developed by Berline Associates with the help of EFL. Old San Francisco schools are receiving the benefits of systems components which were originally designed for new construction. In two model rooms, HVAC units are hung from ceilings with modular 5x5 sections. Walls are being knocked down and replaced with furniture and functional partitions which can be installed along any of the modular ceiling sections. Remaining walls are given a bright coat of paint. The work can be staged during vacations, after school hours, and over

weekends so that the school day needn't be disrupted during renovation.

The School Space Study Committee has concluded that consistent with its recommendations, schools should be kept small with open interiors, and the first schools for renovation should be the older, smaller schools with capacity under 1,000.

#### Future Applicability

Every city has its old school buildings that can be recovered, resulting in a savings to the city, quality educational space and the preservation of buildings that have neighborhood significance. A few pilot projects would have the effect, similar to the found space projects, of demonstrating to parents that older spaces can be as adaptable (if not more so) to new educational ideas as new buildings.

For current information on New Life for Old Schools in New York City contact:

Dr. August Gold, Administrator  
Division of School Planning and Research  
Board of Education  
110 Livingston Street  
Brooklyn, N.Y. 11201

Ms. Rita Barrish  
City Planning Department  
2 Lafayette Street  
New York, N.Y. 10003

## E. HIGH SCHOOLS

### Background

Size: New York City academic high schools have an average enrollment of 4,000 students. New high schools are designed to accommodate 4,000, and there are many administrators in New York who believe that it is uneconomical and administratively inefficient to run smaller high schools. Many New York City high schools are currently overcrowded and are on double or triple session. This overcrowding is likely to persist in spite of the expected completion of several high schools now in construction.

Costs: The construction cost of 4,000-seat high schools is running around \$33 million, about \$8,250 per student. This cost has escalated at a rate far above other kinds of school construction. One of the factors has been the necessity of using unusual sites in order to amass 9 to 12 acres for such a large school.

Disruption: High schools have experienced numerous student disruptions during the past few years. One of the sources of disruption is said to be the size of the school, in particular the overcrowding of already large schools. Both the Fleischmann Commission and a Board of Education task force report made particular mention of the correlation of large size and overcrowding in disruptive situations.



Scheduling: Although high schools are currently overcrowded and have been for many decades, the school day is still planned on the assumption that overcrowding is a temporary condition soon to be relieved by new construction. As a result, most of the overcrowded high schools have overlapping sessions (sometimes called the revolving-door policy). These overlapping sessions are arranged so that there are fewer students at the school early in the morning and late in the afternoon, but the full enrollment is scheduled to be at school in the middle of the day.

Whenever the subject of end-to-end sessions is discussed, the fear is expressed that they won't work because teachers won't teach "odd" hours, and parents don't want their children out after dark in the winter months. A close look at the pattern of New York high school scheduling, however, revealed that while there are few schools on end-to-end sessions, many schools have a large proportion of students attending early or late sessions. A Board of Education survey showed that currently 36% of the high school students (90,800) attend sessions which begin before 8 a.m., and 26% (66,400) attend sessions which start in late morning or early afternoon and end anywhere from 3:45 to 5:34 p.m. Thus more than 50% of all high school students are involved in "unusual" scheduling.

A survey made by the Chancellor's Office indicated that many high school students are interested in evening sessions similar to those on a college level, and the Board of Education is discussing the possibility of voluntary evening sessions throughout the City.

#### Comprehensive High School Issue

The Board of Education favors a comprehensive organization for high schools. Several different proposals on implementing this policy have been made over the past few years. One, which was to build additions to many existing high schools and to convert others, has now been dropped for being too costly and unsatisfactory for providing quality comprehensive education. In September, 1971, Chancellor Scribner defined comprehensive education and ways to achieve it.

"...comprehensiveness can be met by schools which house within a single building the facilities for a comprehensive range of educational programs and a varied student body. This definition can likewise be met--and with equal legitimacy--by schools which enroll a varied student population, and which provide a range of educational opportunities, both job-oriented and college-oriented, by using a combination of their own facilities, leased space, the facilities of other schools, and the resources of the surrounding community. Indeed, the use of multiple resources, both school and non-school, for the purpose of providing educational opportunities to students both in school and beyond the school is a direct means of enhancing the concept of comprehensiveness while also making education more realistic.

"Comprehensiveness, thus defined and described, can be achieved in a variety of ways. The development of comprehensive high schools, then, should proceed with all possible speed along several paths. In short, given the increasingly high cost and lengthy time of construction and the history of difficulty in obtaining construction funds for vocational additions to academic high schools in order to convert such schools to comprehensive high schools, implementation of Board policy should not depend exclusively or even primarily on the construction program. Rather, implementation should proceed, where possible, by the reorganization of programs, the reallocation of existing space and the leasing of new space as required. Moreover, given the immediate need to relieve overcrowding in the high schools, the development of comprehensive high schools should not require the closing of usable vocational high schools; instead, it should make better use of such facilities by re-defining their purpose and putting them to new uses."

A study of the vocational education programs in New York City by the City Planning Department further urged a new approach to the vocational component of comprehensive education and an expanded use of both existing vocational high schools and urban resources. The study found that:

".... (Manhattan and Brooklyn have 10 underutilized vocational schools which provide) course offerings in drafting and building construction, mechanical design, health careers, auto mechanics, cosmetology, fashion careers, business education, electrical installation, printing, cabinet-making and radio and TV mechanics. Drafting, cosmetology, fashion careers, printing and cabinet-making are all low-demand vocational programs which should be reduced in enrollment and capital expenditures. Health careers, business education and electrical installation are all high-demand vocational programs which should be expanded in enrollment. We should investigate how the existing facilities of the low-demand programs could be utilized to accommodate additional students in the high-demand programs...."

"Overcrowded academic high schools could be paired with particular underutilized vocational schools to provide additional classroom space and/or vocational courses for academic high school students interested in specific trades."

The Vocational Education Study further recommends that a series of new innovative models outside of the high school building be developed which would provide programs aimed at matching training with present and likely future market requirements. The Satellite Academy program is a joint venture of the Board of Education and the Human Resources Administration and City Planning Department resulting from the Vocational Education Study. It develops cooperative occupational school training with the cooperation of major local employers. Three academies of 150 students each are in operation: two clerical and one health care. They are located in leased found space near the employers' premises. The Satellite Academy program is expected to expand in areas of high job demand in an attempt to create true comprehensive education.

Copies of "N.Y.C. Vocational Education and Manpower Needs" can be obtained from:

Dr. Janice Weinman  
Division of School Planning and Research  
Board of Education  
110 Livingston Street  
Brooklyn, N.Y. 11201

### "Towards the 21st Century"

The Board of Education appointed a Task Force on High School Redesign to make recommendations for high schools that "could meet the changing needs of the hundreds of thousands of students in our cosmopolitan city." The resulting report, Towards the 21st Century, focuses on six major problem areas: humanization and involvement, new ways of learning and development, making opportunities equal, the community as school, service and responsibility, and mastering the future. The report indicates that the High School Division of the Board of Education is eager to explore new forms of education and new physical ways of housing the new programs.

Copies of Towards the 21st Century can be obtained from:

Mr. Oscar Dombrow  
High School Division  
Board of Education  
110 Livingston Street  
Brooklyn, N.Y. 11201

### Examples of Innovation in High School Facilities

The soaring costs of high school construction, the difficulty of finding sites, the dissatisfaction with many of the high school programs and the desire to move away from 4,000-pupil high schools have made possible the development of several alternative options for high school programs and facilities.

### Park East High School

In the mid-sixties the Board of Education began planning for a 4,000-seat high school to be located on a portion of the Ruppert Brewery Urban Renewal site. The high school was to serve the Yorkville and East Harlem communities. The planning was carried out on behalf of the communities by CCED (Committee for a Comprehensive Education Center). In 1970 this group arranged with the New York City Board of Education and the New York State Department of Education to run a small pilot high school program pending completion of plans for the larger high school. This small program for 150 students began operating in the basement of St. Cecelia's Church in East Harlem. The students and staff did much of the interior renovation themselves. In 1971 the program was expanded with an additional 150 students to the top floor of a newly-opened intermediate school 10 blocks from the church.

The program has attracted students from local high schools, from private schools and drop-outs. The educational program is based on a combination of academic skills and occupational or service experiences. It is an integrated program both in terms of race and class. The program was so successful that the members of CCEC and other people identified with Park East High School began to think in terms of a series of dispersed units instead of a single 4,000-seat container.

This possibility was discussed with the School Space Study Committee and explored with the Board of Education. The Board and other city agencies were cautiously optimistic, particularly in light of the budget crisis that was making it difficult if not impossible to fund high schools at a cost of \$30+ million. Also, criteria developed by the City Planning Commission and the Bureau of the Budget (in consultation with the Board of Education) indicated that funds would be made available for only those projects in areas of severe overcrowding or where there was a proposal for the development of an innovative, cost-saving approach to facilities.

CCEC was able to make a convincing case for a 2,000-student high school in dispersed units developed over a 5-to 6-year period, with the provision that the 2,000 figure be re-evaluated according to the needs of the communities. Several facilities were identified which with very little alteration could be quality facilities for high school programs for lease or sale.

The Board of Education approved a resolution changing the nature of Park East High School and calling for the development of a dispersed unit organization. Funding for the next stage of Park East High School was included in the City Planning Commission's 1972-73 Draft Capital Budget and the Mayor's Budget.

Acquisition of the facility favored by the CCEC can enable Park East High School to enroll an additional 400 to 500 pupils in the fall of 1972, at a cost of approximately \$4,500 per pupil. The development plan calls for construction or lease of at least three additional facilities, including small units for several hundred students each, and a central core installation with a variety of shared facilities for all the units. This central building is likely to be located on the original site and will accommodate 1,100 students and outside recreational space, which would have been impossible if the large high school had been built.

For current information about Park East High School, contact:

Mr. Byron Stookey  
CCEC  
172 East 107th Street  
New York, N.Y. 10029

Concourse Plaza Hotel (High School)

Several years ago the New York City Board of Higher Education requested that the City approve a lease for use of the Concourse Plaza Hotel as a temporary facility for Hostos College in The Bronx. Although the arrangements were approved by the City, they were never carried through. The building was brought to the attention of the School Space Study Committee, which recommended that the building would make an excellent



2,500-student high school involving an expenditure well below the cost of new construction.

The 10-story hotel, containing 240,000 sq ft, is located near major transportation routes and subways in downtown Bronx. The Bronx County Court House is across the street, Yankee Stadium is down the block, and hospitals and other community services are nearby. The hotel once was the scene of the fanciest celebrations. In recent years it has been used to house welfare families, but it has retained much of its glamour and elegance, in addition to being structurally sound. The rooms and suites are of varying sizes and shapes, and the downstairs area has several ballrooms and smaller function rooms. The layout lends itself "as is" to the purposes of a flexible high school (as expressed in Towards the 21st Century) with large and small group areas, instructional materials centers and individualized study.

A survey by the Office of School Buildings of the Board of Education indicated that renovations necessary to provide adequate mechanical ventilation, rewiring, update three passenger elevators (there are also two freight elevators), install a fire alarm system and a new kitchen would be less than \$1 million. Additional, as yet unspecified, alterations might bring the renovation cost to \$1.5 million. The asking

price is \$5.25 million. The total cost would run about \$7 to \$7.25 million, or approximately \$2,900 to \$3,600 per pupil for 2,000 to 2,500 students.

Interest by the High School Division at the Board of Education and other city agencies led to a week-long meeting to develop a program under the sponsorship of the School Space Study Committee with a grant from EFL. The Concourse Plaza High School committee included students, parents, teachers, administrators and consultants. The final report calls for a comprehensive high school with emphasis on community service. The school would be organized in a series of 150-student subject-oriented mini-schools. Half the students' day would be spent in the mini-school and half in elective subjects. Students could move into the hotel as soon as a certificate of occupancy is received. Renovations additional to those required by code could be made after some students and staff "get the feel" of the building.

The committee's report is available to the public. A resolution to pursue the purchase of the hotel has been presented to the Board of Education and is expected to generate discussion as to the building's appropriate use. In addition to the Concourse Plaza, there are other hotels in the City which could be used with a similar approach. Recycling of

major urban buildings, such as hotels, is desirable and offers splendid opportunities for introducing alternative educational and facilities options to high school students and staff.

Copies of From Hotel to High School can be obtained from:

Mr. Oscar Dombrow  
High School Division  
Board of Education  
110 Livingston Street  
Brooklyn, N.Y. 11201

Educational Facilities Laboratories  
477 Madison Avenue  
New York, N.Y. 10022

#### Satellite Academies

The Satellite Academy program was summarized by Dr. Weinman of the Board of Education:

"The Satellite Academy program represents an attempt to develop viable alternatives to the existing and planned vocational high school system. The purpose of the Satellite Academy program is to establish career education in areas which meet New York City's present and future manpower needs in facilities which incur fewer capital costs than the construction of vocational additions to existing academic high schools. Moreover, in response to Chancellor Scribner's call for innovative career education programs, the program is designed to provide unmotivated high school students with opportunities for on-the-job training in specific occupational areas. The purpose of the program is to make the educational system more relevant as well as to provide students with a range of training opportunities which they could not obtain through other channels.

"Three Satellite Academies opened in the fall of 1971; 2 clerical academies with 150 11th and 12th grade students each, and 1 health academy with 100 10th, 11th and 12th

grade students. One of the clerical academies is located at Two New York Plaza and the second at 132 Nassau St. - office buildings close to the work sites. Students attending the academy at Two New York Plaza have clerical jobs in banking; and students at the Nassau St. Academy hold clerical jobs in N.Y. Telephone affiliates and one stock exchange firm. The third academy in renovated space close to Lincoln Hospital, will afford students work experience in the hospital and community health setting.

"Clerical Academies: The Clerical Satellite School program combines clerical work experience with classroom training in basic educational skills on the work site. The current surplus of office space in Manhattan provides a unique opportunity for the Board of Education to establish Satellite Schools in the same buildings as the Cooperative Education employers. The students work part-time in regular clerical occupations in the sponsoring firms and are compensated at the prevailing wage rates. The educational curriculum stresses general reading and math skills and the development of suitable work habits and attitudes. Students receive an academic diploma upon completion of the program.

"Health Academy: The Lincoln Hospital Satellite School Program combines classroom training in basic medical techniques and theory with work experience in a hospital and community health setting. The classroom curriculum will emphasize generic and technical skills, including an understanding of fundamental medical and biological principles. The training laboratory in the leased space will provide classroom experience in laboratory procedure and techniques. Students will gain practical experience through paid job placements which will provide a progression from non-technical positions to more highly skilled laboratory assignments."

For further information, contact:

Dr. Janice Weinman  
Division of School Planning and Research  
Board of Education  
110 Livingston Street  
Brooklyn, N.Y. 11201

### Alternative High Schools

There are currently 12 Alternative High School programs operating in New York City. They are:

#### Bronx

Morris  
James Monroe  
Evander Childs  
De Witt Clinton

#### Queens

John Bowne  
Andrew Jackson

#### Manhattan

Seward Park  
Julia Richman

#### Richmond

Port Richmond

#### Brooklyn

Boys  
Bushwick  
Thomas Jefferson

Enrollment in these programs ranges from 26 to 125, with a supporting staff of teachers and street workers and funds for reading materials and travel to city resources. A memo from Henry Brun, coordinator of the Alternative High School program highlights the following:

"Most students are reacting well to the program. At Julia Richman High School the students report a sense of family relationship to their teachers. They feel as if someone finally 'cares about them' and 'listens to what they have to say'. Involvement of students in planning curriculum and related activities has given them a sense of ownership or shareholding which could never have been achieved in the larger school community.

"The teacher-in-charge and professional staff of the Alternative Schools are bright and hard-working professionals. They show an often amazing creativity. At Seward Park High School, student experimentation in the area of food preparation has led to the printing of

student cookbooks which contain some fascinating recipes. Julia Richman Alternative School publishes a periodical called 'Electric Pages'. In addition to these activities, several of the schools are interacting with the High School Program Division of the Metropolitan Museum of Art and have enjoyed some very educational tours. In another instance, expensive organ construction kits have been obtained gratis from a commercial company and students are now constructing a full-scale organ. Additional kits will be forthcoming as the students successfully complete their project.

"With a recently approved Title I grant, Reading Resources Laboratories are being established in 10 of the Alternative Schools. Reading teachers are currently serving in eight Alternative Schools. Additional recruitment is going on. Textual materials and hardware equipment is being purchased and shipped to the schools. In-school supervision and training is being effected by a staff member who has had a great deal of experience in the field of innovative reading programs. Workshops and training sessions are in progress.

"Additional supportive services are being provided by Streetworkers, Inc. and Corporate Development Center, both components of Hollow Organization. Streetworkers are selected by the schools and trained by Hollow. They provide a strong liaison between Alternative School, home and community agencies. At John Bowne Alternative School, students have formed a relationship with their streetworkers which carries into the areas of after-school employment and health care, among others. Corporate Development Center seeks to facilitate relationships between Alternative Schools and industrial firms. Recently such a liaison has developed between Julia Richman Alternative School and the Atlantic Richfield Company. Personnel from this firm visit the Alternative School to discuss careers and job-seeking with students who in turn spend time at the offices of Atlantic Richfield gaining on-the-spot experience in business activities. Boys High Alternative School is heavily funded and supported by Union Carbide Company. We are hopeful that additional corporate relationships will develop."

The most serious problem faced by the Alternative High Schools is the slow progress in obtaining off-school sites for the programs. The intent is to locate spaces in neighborhood commercial, storefront, religious or office buildings which will be inexpensive and usable "as is". This program, like several other worthwhile programs, was held up by the Board of Education's attempts to clear up and set priorities for its leasing funds. Once the leasing funds became available, the Alternative High School program was given priority and is becoming an excellent example of the speedy, inexpensive use of existing urban facilities.

For more information on Alternative High Schools, write:

Mr. Henry Brun  
Office of High Schools  
Board of Education  
110 Livingston Street  
Brooklyn, N.Y. 11201

#### Schools Within Schools

There is currently a great deal of enthusiasm in many of the high schools and at the Board of Education for the concept of creating "mini-schools" within the framework of the large school. In this way educators, students and administrators see that close, personal relationships can be established in an institution which tends to be overwhelming, impersonal and alien.

This kind of organization is being tried in a number of intermediate schools and is being implemented at Haaren High School in Manhattan. The students have been divided into groups of about 150. However, the building does not lend itself to such a program, so the Board of Education, interested in the success of this approach, has set aside modernization funds for the creation of mini-school open-space "turf". Having each mini-school base painted a different color for identification is an example of an easy yet important step.

The mini-school organization is also the recommended organizational basis for Concourse Plaza High School.

#### Rescheduling

There are a number of City administrators who feel that a carefully thought-through program of rescheduling, while not terribly innovative, offers the best hope for quick, widespread relief of overcrowding at the high school level. There are several different types of rescheduling which individually or in combination could relieve overcrowding and permit a more active use of the existing school buildings. Recommendations are being drawn up at the Board of Education.

End-to-end sessions: Currently the few schools that do use end-to-end sessions (as distinct from overlapping sessions)



assign two grades in the morning, two in the afternoon. This has led to dissatisfaction. School spirit sags. Extracurricular and enrichment activities are difficult to organize. The students feel isolated.

The School Space Study Committee has recommended that end-to-end sessions be scheduled, but with each session having a full high school organization. Thus, if a school has a 3,500-capacity but an enrollment of 6,000, the sessions should be organized in two sections. School A, with 3,000 students, would attend the morning session and have extracurricular activities in the afternoon; and School B, also with 3,000 students, would attend in the afternoon and have extracurricular activities in the morning. The extra capacity of 500 spaces could be set aside permanently for extracurricular activities, thus allowing for a full session of academic and a full session of other activities. Each school organization could have its own sports teams, student government, cheerleaders, orchestra, newspaper and clubs. The only common element would be the shared physical building, not unlike the system many colleges have today, where several classes meet and several instructors teach in any given area.

In order to demonstrate that this is a workable approach, the Board of Education should undertake to organize at least

one school in each borough along these lines as examples. A survey taken by the Board of Education demonstrated that most of the City's 92 high schools have overlapping sessions and that over 50% of all high school students attend early or late sessions now. A dual-school organization would be a more efficient use of the existing capacity, altering few over-all patterns of attendance. End-to-end scheduling would also eliminate many of the uncertainties and dangers associated with the current "revolving door" schedules.

Evening sessions: If evening sessions are as popular as a poll taken by the Chancellor's office indicates, these sessions might also work like the end-to-end sessions, with an entire school organization attending during the day and another at night. Arrangements for police cooperation would have to be made; however, subway travel would be as safe, if not safer than during the day because in New York City there are policemen on every train after 8 p.m.

Attendance for evening sessions ought initially to be voluntary. These sessions would clearly benefit those students who need day-time employment or whose parents have evening jobs, allowing for families to have a more coordinated life-style. This has met with great success in a high school in Las Vegas.

Year-round high schools: Year-round high schools might be more difficult to implement than either end-to-end sessions or evening sessions. There has been a lot of talk about the full-year school and a few experiments throughout the country. In urban areas this form of organization would have advantages, such as freeing students for employment opportunities evenly throughout the year rather than all in the summer. Students, families and staff would have a wider selection of vacation possibilities, with costs lower in the non-summer months for most places and activities.

Year-round schools or evening sessions would most probably begin on an experimental basis with voluntary student enrollment and faculty staffing. If they proved successful, arrangements would have to be made with the teachers' unions and supervisors' associations. Both the quarter system and the 45-15 schedule should be explored.

A careful investigation of budgetary implications should also be undertaken. Since staff allotments are based on student enrollments, these would not be increased either by rescheduling or new construction. The additional costs seem, at first glance, to be for additional maintenance and utilities required for longer use of the buildings. These costs would probably be comparable to the interest payments on bond issues for new construction.

Consolidation of Existing Underused Schools for use as Small High Schools

There are several areas in the City where elementary and intermediate schools are underused, while high schools are severely overcrowded. Many of the underused schools could be easily converted into high schools.

Consolidation along these lines would not only ease overcrowding but would also permit the creation of small high school organizations, either as annexes to existing schools or as independent high schools. Recycling of existing school space gives a great measure of flexibility and encourages experimentation with different grade organizations. It challenges the idea that there is a specific facility appropriate for one age group and no other, and that any given combination of age or grade groups is absolutely correct.

For further information on Rescheduling, and Consolidation of Underused Schools, contact:

Dr. Janice Weinman  
Division of School Planning and Research  
Board of Education  
110 Livingston Street  
Brooklyn, N.Y. 11201

## F. SYSTEMS CONSTRUCTION

### Background

The success of systems building and building systems in urban, suburban and rural areas of the country created the possibility that systems could work in New York City. Systems building claimed to have three main advantages: speedy delivery, quality control and reduced costs. In late 1970, the architectural firm of Caudill Rowlett Scott, under a consultant grant from EFL following their rapid completion of several systems additions and school in Merrick, Long Island, joined with the School Space Study Committee in talking with numerous City officials, agencies and local parents' groups about a pilot project for systems in New York City.

In particular, the Committee and architects spoke with the parents of P.S. 146 in the Morrisania section of The Bronx, and with District #8 officials. The parents had boycotted the school and threatened continued boycotts until the damp, leaking portable classrooms were removed and an alternative solution found to house 250 children. The Chancellor agreed to forward their demands to the City budget officials, but the estimated price tag was high: over \$1.5 million for an addition which would take two to three years at a minimum to design and build. The City was in the beginnings of a budget crisis, and the overcrowding in this school, while severe, was by no means

the worst in the City. Thus, the community and affiliated officials and politicians were most receptive to the idea of being the first to experiment with systems construction. The price was estimated at \$600,000, with the expectation that the addition could be ready (barring labor or market obstacles) to open in September, 1972. The prospect was most attractive to a number of people, including the Board of Education's Office of School Buildings. The District made a presentation at the Board of Estimate hearings and the Bronx Borough President agreed to add the P.S. 146 addition to his proposals for construction funding for 1971-72.

In addition to the small addition, the firm of Caudill Rowlett Scott was also subsequently selected to design and build a primary and intermediate school complex in District #12 in The Bronx. The schools for 3,300 pupils will be designed campus-style on a single large site and built on a systems basis.

#### The Saga of P.S. 146

Innovation rarely proceeds smoothly anywhere, certainly not in New York City. Even before the innovative aspects of the project could be approached, the architects needed an approved contract. The ensuing delay in this initial step immediately put them several months behind schedule. The

hassles over the specifications of the contract are symptomatic of the bureaucratic resistance to new procedures. None of the delays were in any way malicious, but cumulatively could have killed the project if it hadn't been for a chance discovery of the cause of the delay.

Several months after the contract should have been informally approved, the Space Study Committee checked the file for the school to try and locate the source of the delay. Much to their surprise they discovered that the cost scope outlined was way above the allocated \$600,000; in fact up to \$1.1 million. That figure had been arrived at through a calculation of approximately \$53.00 a sq ft, plus an additional \$21.00 a sq ft for "low capacity"! There was also a cost of \$150,000 for a new frozen food kitchen. The kitchen was cleared up rapidly; it had been added by a Board staff member who was operating under the assumption of "ask for everything". That unnecessary and unrequested cost was removed. But what was "low capacity"? The Committee finally learned that the Board of Education and Bureau of the Budget estimators added, by rote, an additional cost whenever the unit was small on the assumption that a small conventionally built unit always costs more both because the bidder asks a base price just to bring men and equipment to the site, and because the programs call for auxiliary

facilities out of proportion to learning space. So they built into the experimental model a factor to defeat the calculated savings in technology and program.

After the estimators were convinced that the systems price was firm, and that the lower gross square footage of the program was actual, they agreed to reduce the estimate to the \$600,000 appropriation figure, and the architects' contract was finally signed. A program of requirements which called for 50 sq ft per pupil was approved by the School Board and parents. The architects drew three possible designs for the addition and the community indicated its preference.

Simultaneously the architects and the Office of School Buildings were working closely together to develop the necessary technical and procedural input. A meeting was held in late October, 1971, which was attended by representatives of city agencies, the architects, the Board of Education and consultants who had dealt with systems in other areas. In particular the experiences of Earl Flansburgh, the architect for the two Boston systems schools, gave the meeting the feeling that systems could be done in New York City with the cooperation of all the various people and approvals involved.

As a result of that meeting, the School Space Study Committee sponsored a trip to Boston to see systems during the



construction stage and talk with the Boston city architects, technicians and financial staff who worked on the projects. The trip was most useful in that the New York engineers got a firsthand look at how another city had dealt with questions of unions, codes and financing. They also realized that while the various components used by Boston might not all meet New York codes, the subsystems could be developed to performance specifications designed to meet the requirements of the New York codes.

Also following the October meeting, the Office of School Buildings began to push for employment of a Construction Manager who could begin to draw together the various tasks and at the same time begin to talk with the manufacturers and labor organizations involved. Although at this writing the Construction Manager still has no formal contract, they have begun to work on parts of the systems development.

In mid-December the architects circulated the first draft of a book of New York systems to the various agencies. The book described the different subsystems, the manufacturers already in the field, possible performance specifications and the anticipated reaction of labor. The book also outlined a series of procedural recommendations and contract forms. The architects and construction manager (Turner Construction

Company) are currently revising this book to include forms and procedures which meet the requirements of the various agencies involved in the approval process.

The architects were convinced that the pre-bids for the P.S. 146 addition could have proceeded as scheduled for March, 1972, well within the 1971-72 Capital Budget year. However, they were told by manufacturers that the costs for components for P.S. 146 alone would have been too high and that the savings would come only by joining P.S. 146 with the bids for P.S. 202-I.S. 207. In order not to delay the P.S. 146 addition any further, the architects and the Office of School Buildings decided to push ahead with this project on a modified systems basis, using components already available on the market, and turning to conventional methods for those aspects where systems must await a larger market. P.S. 146 won't open in September, 1972, but will still be ready well in advance of completely conventional construction.

#### Future Applicability

The City is watching closely to see if P.S. 146, and P.S. 202-I.S. 207 can in fact be built more quickly, of better quality and less expensively than conventional construction. Estimators will be watching to see if pre-bidding allows the price of a project to be estimated with greater accuracy.

Educators are watching the progress of systems because the designs and components seem to allow for a more flexible, pleasant environment than with regular construction.

Systems challenges the "accepted" ways of doing things: of designing, of obtaining approvals, of letting bids and of doing the actual construction. At a minimum, the introduction of systems will have a salutary effect on the sluggish systems of specifications and approvals. The challenge in this area has been felt at the Board of Education and throughout the City's approvals channels. Systems may be the impetus necessary for the revision and streamlining of procedures and the introduction of fast-tracking, already accepted in many school systems and private construction.

Systems is most likely to succeed where there is a firm commitment on the part of the city government to introduce and carry through the innovation and savings allowed by systems. This commitment can be made through budget endorsement, representation at labor discussions and a willingness to make the necessary legal and administrative changes to facilitate use of systems techniques. Commitments along these lines have already been made in cities like Baltimore and Boston, where public officials have promised a large and speedy building program. Hopefully the same commitment will be made and fulfilled

by the New York City officials who claim to be interested in building better, faster and less expensive schools. P.S. 202-I.S. 207 will be a test of the depth of their commitment. For current information on systems progress in New York City, contact:

Mr. Ted Wolner  
Department of City Planning  
2 Lafayette Street  
New York, N.Y. 10003

Mr. Hugh McLaren, Director OR

Mr. Arthur Paletta, Director of Architecture  
Office of School Buildings  
Board of Education  
28-11 Bridge Plaza North  
Long Island City, N.Y. 11101

For publications on the technical aspect of systems contact:

Educational Facilities Laboratories  
477 Madison Avenue  
New York, N.Y. 10022

## FUTURE APPLICATIONS

New York City has made a dramatic start on relieving overcrowding and encouraging educational innovation through unconventional approaches to educational facilities. These approaches, singly or in combination, can, over the next 5 to 10 years, relieve overcrowding and provide a rich variety of styles, methods and places of education.

There are still bureaucracies, unending approvals and reviews, specifications that have little or no relationship to function, and people who are upset when schools don't look like traditional schools. But there are also refreshing energies and individuals dedicated to the idea that some of the hope for the cities lies in educational systems, who see the importance of making schools and learning fun, attractive and affordable.

Facilities won't do all that, but they make a good start. The looks of joy of the students in old Burnside Manor, the old warehouse school, a commercial storefront; the reduced hostility and vandalism; high attendance rates; all speak for the process of renewing ourselves and our urban areas. Facilities provide the initial impulse, program must carry it through.

#### WHAT AN URBAN SCHOOL CAN BE

- . functional
- . flexible
- . friendly
- . inviting
- . organic
- . on human scale
- . an impetus to educational innovation
- . a multi-age center

#### WHAT AN URBAN SCHOOL COULD BE

- . new construction
- . recycled space in buildings not originally intended for school use: warehouses, hotels, catering houses, bowling alleys, offices
- . open, flexible, bright space in older, existing schools: knock down a wall, carve out an arch, carpet the floors, paint the walls
- . combined with other uses: housing, offices, health centers
- . convertible to other uses when no longer needed for education

#### WHAT AN URBAN SCHOOL NEEDN'T BE

- . a monument
- . eggcrates off a double-loaded corridor
- . a free-standing building fenced off from the world
- . built in the first instance as a school
- . large, leading to "cattle-ization" of students, staff, parents
- . an impediment to learning
- . unfriendly

APPENDIX A.

Agencies and People Involved in School Space Study Projects

I. Overall

A. Directors

Harvey B. Scribner, Chancellor, N.Y.C. Schools  
Donald H. Elliott, Chairman, N.Y.C. Planning Commission  
David Grossman, Director, Bureau of the Budget  
Harold B. Gores, President, Educational Facilities Laboratories

B. School Space Study Committee

Rachel Radlo Lieberman, City Planning Department,  
Educational Planning Section  
August Gold, Administrator, Division of School Planning  
and Research, N.Y.C. Board of Education  
Manuel Sanchez, Board of Education staff

C. Board of Education

Hugh McLaren, Director, Office of School Buildings  
Arthur Paletta, Director of Architecture, Office of  
School Buildings

D. City Planning Department

Ed Robin, Director, Office of Comprehensive Planning  
Martha Davis, Director, Capital Budget Division  
Corinne Rieder, (former) Chief, Educational Planning Section  
Barbara Braden, Chief, Educational Planning Section  
Rita Barrish, Consultant, Educational Planning Section

E. Bureau of the Budget

John Pender, Education  
Hilary Feldstein, Education

F. Mayor's Office on Schools

Sally Bowles, Assistant to the Mayor  
Barbara Crompton, Staff assistant

II. Specific Projects

A. Systems Construction

1. Office of School Buildings, Board of Education

## II. Specific Projects (cont'd)

2. Division of School Planning and Research,  
Board of Education  
Nathan Klein, Assistant Administrative Director  
Ben C. Quesada, Director, Educational Facilities  
Planning Section  
Norman Wellen, Executive Assistant
3. Architects  
Caudill Rowlett Scott: Todd Lee, Project manager
4. City Planning Department  
Ted Wolner, Educational Planning Section  
Juan Villanueva, Director, Bronx Local Area Planning Office
5. Bureau of the Budget
6. Mayor's Office on Schools
7. Comptroller's Office  
Jerome Furst
8. Corporation Counsel's Office  
Morgan Lipton
9. Bronx Borough President's Office  
Robert Abrams, Borough President  
Len Pikarski  
Robert Sancho
10. Community School District #8 (Bronx)  
James Phelan, President, District School Board  
Milton Goldenburg, Principal, P.S. 146X  
Mrs. Aiken, P.S. 146X, PTA President
11. Community School District #12 (Bronx)  
Felton Lewis, Acting Superintendent  
Edythe Gaines, Superintendent (on leave)  
Leo Summergrad, Assistant to the Superintendent
12. Public Facilities Department, Boston, Mass.  
Robert J. Vey, Director  
Stuart Lesser, Chief Architect  
Philip Varney, Project Engineer for Systems  
Earl Flansburgh, (Private) Architect for BOSTCO  
systems projects



## II. Specific Projects (cont'd)

### B. School Space in Apartment Buildings

1. Division of School Planning and Research,  
Board of Education
2. City Planning Department  
Ed Robin, Director, Office of Comprehensive Planning  
Norman Marcus, Chief Counsel  
Mark Levine, Counsel's Office  
Tony Levy, Counsel's Office  
Alex Garvin, Chief, Housing and Community Development  
Section  
Bob Milwood, HCD  
Alan Beller, HCD  
John Schwartzman, HCD  
Vic Laplatiniere, HCD  
Pares Bhattacharji, Zoning  
Eden Lipson, Chief, Recreation Section  
Colin Minert, Recreation Section  
Bill Rossbach, Educational Planning Section  
Shelley Slovin, Bronx Local Area Planning Office  
Ann Hoover Sullivan, Brooklyn LAPO  
Bonnie Goldschlag, Richmond LAPO  
Harry Davidow, Manhattan LAPO
3. Housing and Development Administration
4. Housing Authority
5. Bureau of the Budget
6. Jamaica Planning and Development Office  
Andy Maguire, Director  
Chris Lowry, Staff assistant  
Ben Bell, Queens HDA  
Howard Cooper, HDA Project Director
7. Mayer and Schiff, Architects of The Acorn School  
John Schiff

### C. Small Schools

1. Division of School Planning and Research,  
Board of Education  
Norman Wellen, Executive Assistant  
Nathan Klein, Assistant Administrative Director  
Morris Hershkowitz, Assistant Administrative Director  
for sites and real estate

## II. Specific Projects (cont'd)

- Joel Drucker, sites and real estate  
Mario Brechisi, Architect  
Joe DellaLonga, Architect  
Marion Pasnik, Educational Facilities Planning Coordinator
2. Office of School Buildings, Board of Education  
Staff architects
  3. City Planning Department  
Ted Wolner, Educational Planning Section  
Mark Kaufman, Urban Design Section  
Shelley Slovin, Bronx Local Area Planning Office  
Bill Haskell, Bronx LAPO  
Peter Magnani, Bronx LAPO  
Ann Hocver Sullivan, Brooklyn LAPO  
Holly Kaye, Brooklyn LAPO  
Harry Davidow, Manhattan LAPO  
Bonnie Goldschlag, Richmond LAPO
  4. Mayor's Office on Schools
  5. Bureau of the Budget
  6. Comptroller's Office  
Jerome Furst
  7. Bronx Borough President's Office
  8. Brooklyn Borough President's Office  
Paul Mina
  9. Caudill Rowlett Scott, Architects  
P.S. 202-I.S. 207 (Bronx)
  10. Community School District #6 (Manhattan)  
Edwin Haas, Superintendent  
Joseph A. Bailey, President, Community School Board  
Seymour Foster
  11. Community School District #9 (Bronx)  
Andrew Donaldson, Superintendent  
Ruth Krawitz, Assistant to the Superintendent  
Ivy Barnes, President, Community School Board  
Sol Liebowitz, Construction Chairman, Community School  
Board

## II. Specific Projects (cont'd)

12. Community School District #10 (Bronx)  
Ted Weisenthal, Superintendent  
Fred Goldberg, Assistant to the Superintendent  
Shelley Lindenbaum  
John Paoletta  
Father Mario Zicarelli, President, Community School Board  
Alfred Lignon, Construction Chairman,  
Community School Board
13. Community School District #12 (Bronx)
14. Community School District #16 (Brooklyn)  
Abraham Tauchner, Superintendent  
Mrs. Coppin, Assistant to the Superintendent  
Marjorie Matthews, President, Community School Board  
Irving Weinstein, Principal, P.S. 151
15. Community School District #17 (Brooklyn)  
Charles Schonhaut, Superintendent  
Sanford Schlesinger, President, Community School Board  
Dr. Henry Schaeffer, Construction Chairman,  
Community School Board  
Cecil Ramsey, Community Coordinator
16. Council of Supervisors and Administrators  
Walter J. Degnan, President  
Aaron N. Slotkin, Public Relations Director

### D. Renovation of Existing Buildings

1. Board of Education
  - a) Division of School Planning and Research  
Ben C. Quesada, Director, Educational Facilities  
Planning Section  
Stanley Berkowitz, Architect  
Frank Messina, Architect  
Marion Pasnik, Educational Facilities Planning Section
  - b) Office of School Buildings  
Max Rome, Director, Reconstruction Section  
Staff architects and engineers
  - c) Chancellor's Office  
Len Stevens  
Jack Woodbury
  - d) High School Division  
Henry Brun

## II. Specific Projects (cont'd)

2. Mayor's Office on Schools
3. Bureau of the Budget
4. Site Selection Board  
Jim Cleveland, Secretary
5. Comptroller's Office  
Arthur Levine
6. Department of Real Estate  
Michael Palumbo  
Ben Lefkowitz
7. Community School District #9
8. Community School District #10
9. Satellite Academies  
John Strand, Board of Education  
Janice Weinman, City Planning Department,  
Educational Planning Section
10. Burnside Manor (P.S. 26 Annex)  
Della Lee, Principal  
District #10 Office
11. Park East High School  
Byron Stookey, Director, Committee for a Comprehensive  
Education Center  
Felicia Clark, member CCEC  
Thelma King, Principal
12. Concourse Plaza High School  
Jacob Zack, Superintendent, High School Division,  
Board of Education  
Oscar Dumbrow, Assistant Superintendent, High School  
Division  
Stuart Lucey, Assistant Superintendent, High School  
Division  
Simpson Sasserath, Principal, Central Commercial High  
School, Chairman-Hotel to High School Committee  
Shelley Slovin, City Planning Bronx Local Area Planning  
Office  
J. Caspi, Owner  
Charles Borrok, William A. White realtors  
Robert Abrams, Bronx Borough President  
Barry Salman, Bronx Councilman

## II. Specific Projects (cont'd)

13. P.S. 211 (Bronx)  
District #12 Office  
Carmen Rivera, Principal  
Ina Gustofson, Assistant Principal
  14. P.S. 232 (Bronx)  
District #8 Office  
Tobias Sumner, Principal
- E. New Life for Old Schools
1. Board of Education
  2. City Planning Department  
Rita Barrish, Educational Planning Section  
Eta Paransky, Educational Planning Section  
Harry Davidow, Manhattan Local Area Planning Office  
Ann Hoover Sullivan, Brooklyn LAPO  
Doug Thompson, Brooklyn LAPO
  3. Architect for P.S. 54 (Bronx)  
Bond and Ryder
  4. Community School District #2  
Elliott Shapiro, Superintendent  
Andrea Wilson, Assistant to the Superintendent
  5. Educational Facilities Laboratories  
Alan C. Green, Secretary-Treasurer  
Ben E. Graves, Project Director, New Life for Old Schools  
Michel Berline, Berline Associates, San Francisco
- F. High Schools (rescheduling; small high schools)
1. Board of Education  
Isaiah Robinson, President
    - a) Division of School Planning and Research  
Norman Wellen, Executive Assistant  
Nathan Klein, Assistant Administrative Director
    - b) The Chancellor's Office
    - c) The High School Division  
Jacob Zack  
Oscar Dombrow
  2. City Planning Department  
Janice Weinman  
Rosalie Hoffman

## II. Specific Projects (cont'd)

3. Committee for a Comprehensive Education Center
4. Concourse Plaza High School Committee

### G. Methods of Financing

1. City Planning Department  
Ed Robin, Director, Office of Comprehensive Planning  
Mark Levine, Counsel's Office

### H. Capital Budget Alternatives

1. Board of Education  
Isaiah Robinson, President
  - a) Division of School Planning and Research  
Norman Wellen, Executive Assistant  
Nathan Klein, Assistant Administrative Director  
Morris N. Sacks, Director, Programming Section  
Sy Levine, Programming Section
  - b) Office of School Buildings
2. City Planning Department
3. Bureau of the Budget

## APPENDIX B.

### MAYOR'S EXECUTIVE BUDGET 1972-73, CITY OF NEW YORK

#### Primary and Secondary Education

All schools which will be ready for construction in 1972-73 in the City's most severely overcrowded districts are receiving priority attention and are recommended for construction funds in this capital budget.

#### High Schools

Overcrowding in the City's high schools continues to be an acute problem. The City supports the Board of Education's plan to review its high school construction policy and to consider alternatives in scheduling, development of smaller schools, and use of non-school space.

Park East High School, to be located in the Yorkville area of Manhattan, represents an innovative departure from the traditional 4,000-seat high school. In an effort to provide a flexible and more personal learning environment for its students, Park East is being planned as a dispersed small high school for 2,000 students. Several small schools will be linked to a core facility housing specialized resources, and the program will also include use of non-school resources in the area. Funds are provided for purchase and renovation of one of the sub-schools for this project.

#### School Space Alternatives

The problem of providing needed school space quickly and within the limits of the budget has received considerable attention in the past year. The Board of Education, the City Planning Commission, and the Bureau of the Budget contracted with the Educational Facilities Laboratories to undertake a study of school space alternatives. A number of their suggestions have been incorporated in this capital budget:

Small Schools: Construction funds are provided for five small schools - P.S. 163 and I.S. 199 in District #9, and I.S. 206 in District #10 in the Bronx; P.S. 397 in District #17 in Brooklyn; P.S. 215 in District #6, Manhattan. Each school will provide space for between 500 and 600 children and each is the first of a complex of small schools located within the district in lieu of one large school. Small schools can be built on half-acre sites, making them

especially desirable in districts where site acquisition and relocation pose severe problems. As permanent structures, they will be built with flexible spaces which can be accommodated to changes in educational techniques. Their small size will replicate the close personal atmosphere that has been one of the most positive effects of the high school mini-school program and the temporary mini-school annexes to elementary schools.

**Systems Construction:** Under traditional construction methods all construction of a school is undertaken after a final design is approved and bids awarded. In systems buildings, when preliminary plans for a school are approved there is sufficient information to prepare specifications for certain subsystems such as heating, ceiling lighting, or interior walls, and these subsystems are bid and contracted for immediately. While the final designs for the school are being completed, these subsystems are prepared for installation and can go into place as soon as the final contract is let and the foundations and skeletal structure completed.

**Purchase and Renovation of Existing Buildings:** A new project, line, E-1728, with a \$3 million allocation, will permit the Board of Education to purchase and renovate commercial and industrial space to relieve overcrowded community districts. For example, P.S. 211 in District #12 in The Bronx has already converted to school space a former factory in which the open floor space has been retained and space subdivided by use of furniture. The advantage of this new project line is that when useable space becomes available in the designated districts, the Board of Education can move quickly to secure it through usual site selection procedures. By limiting expenditures to relieving overcrowded situations, use of the funds for projects of the highest priority is ensured. Purchase and renovation of an existing structure is one of the options presently being considered for Central Bronx High School for which a suitable large open site is proving difficult to obtain.

**New Life for Old Schools:** Another strategy for providing attractive and modern educational space is the imaginative renovation of old but structurally sound buildings to a greater extent than in usual modernization projects.

The shortage of capital funds means an austere, but forward looking capital budget for primary and secondary education. Severe district overcrowding will be partially relieved and should receive top priority in future school planning. In addition, development of alternatives for school space must be found, particularly those which reduce costs and speed construction while providing optimal learning situations.



NEW YORK POST, TUESDAY, JANUARY 18, 1972

## Readin' & 'Ritin' & Halvah & Caskets Too

By **BERNARD BARD**

Parents didn't mind putting a school into a former catering hall that specialized in bar mitzvahs and weddings, or in a former halvah factory. But they were on edge about the prospect of holding class in a casket showroom.

However, if details can be worked out, school officials plan for school to be conducted at the Boyertown Casket Co., 2458 Webster Av., just as they now use the old Burnside Manor at Burnside and University Aves., and the old halvah works at 560 E. 179th St., all in the Bronx.

Schools Chancellor Harvey D. Scribner is an advocate of converting empty commercial and office space into schools. It's cheaper and faster than new construction, he says, and permits experimentation with open space, as distinguished from conventional four-walled classrooms.

### Tours the Sites

Touring some examples of "alternative" school sites, Scribner found four second-grade classes at work in the grand ballroom of Burnside Manor, reading under the lights of a huge crystal chandelier.

The room retained the catering-hall decor, immense expanses of mirror on one wall, a stage for the band, carpet alongside the dance floor, and off in a corner the

bar—now a library corner featuring "Heidi" and "Madeline's Rescue."

The principal, Mrs. Della Lee, has her office in what used to be the room where the Burnside management gave the family of the bar mitzvah boy the estimate. The guidance counselor works in the Mayfair Room "bridal suite," which still contains a vanity table with frilly trimmings and a French Provincial chaise longue.

### Serves as Annex

Burnside Manor has been an annex to PS 28 since the first of the year. "The children love it — they are so happy here," says Mrs. Marcia Levine, first-grade teacher. They read, lounging on the carpet; take piano lessons in the downstairs chapel.

Converting the catering hall and other places into school use was aided by a grant from Educational Facilities Laboratories Inc., an arm of the Ford Foundation.

By leaving most fixtures in place and just adding necessary lights and washrooms, renovation expenses at the hall were kept to under \$10,000, about one-thirtieth the cost of partitioning off the ballroom into conventional classrooms.

"Some of the old-line educators died a slow death every time they walked in here," said Alfred J. Lignon, member of Community

School Board 10. "They said 'Rip out this' and 'Rip out that.'"

But just about everything was left intact, including a vase of artificial red roses in an illuminated alcove just off the main stairway.

The halvah factory—which in its time had also been a laundry, a mattress factory and a warehouse—is now a bilingual school. A half dozen classes meet simultaneously in a large area that once housed the halvah assembly-line.

"This open-space idea is beautiful," says Carmen E. Rivera, principal. "Neither the children nor the teachers are isolated from each other.

There is more interaction. Sometimes teachers need walls for protection because they feel threatened by the presence of another adult. But our teachers have acclimated very well."

Scribner said: "This is a far more natural setting for education. A school recycled from a factory is less of a factory than many schools built as schools."

As far as the casket showroom, Lignon says some parents have objected because they have "the traditional hangups" about the name. It will probably be changed, he said. When the showroom opens as a school, it will ease overcrowding at PS 85

and PS 59.

Scribner and his party also visited the Acorn School, a private Montessori school at 380 E. 26th St., which meets in the converted ground floor of an apartment house. Overhead pipes and ducts have been labeled "toilet exhaust," "electric," "heating" and "air conditioning."

THE NEW YORK TIMES, TUESDAY, JANUARY 18, 1972

## Walled Rooms Do Not a School Make

By GENE L. MAEROFF

No special decorations—just the usual red carpeting, smoked-glass mirrors, golden sconces and crystal chandeliers—were in evidence when Dr. Harvey B. Scribner arrived at the Public School 26 Annex in the Bronx yesterday morning.

The City School Chancellor's visit was an unusual occasion, but the luxurious furnishings are part of the everyday décor of the school, which until this year was a catering establishment known as Burnside Manor, specializing in wedding and bar mitzvah receptions.

Converted to a school at a cost of less than \$10,000, the P.S. 26 Annex is one of three schools in unusual settings that Dr. Scribner toured yesterday. He said that his purpose was to see what use was being made of "alternative spaces for schooling."

Standing on the shiny wooden dance floor in the middle of one of the spacious ballrooms in the former Burnside Manor, the Chancellor looked around him at the clusters of busy children and said:

"When I see this, I am convinced we may be able to renew ourselves instead of going the old route of cartoning off buildings into separate classrooms."

At each stop, he seemed immensely pleased with what he saw and he marveled at

the "openness" of the teaching environment.

What the three schools, including a former factory and the ground floor of an apartment building, had in common was that they have been adapted to educational purposes without the building of interior walls to enclose the classrooms.

For example, at the second school on Dr. Scribner's itinerary, P.S. 211 in the Bronx, the former factory, the vast open areas have been preserved. Teaching areas are separated by bookcases and low furniture and any child or adult can watch several classes in session.

Officials said it cost \$500,000 to convert the five-story factory to a school to serve 700 children from first through sixth grade.

"Unbelievable, fantastic," Dr. Scribner remarked as he walked through P.S. 211, which before becoming a school three years ago was used for the manufacture and storage of such products as mattresses, artificial flowers and halvah.

Construction scaffolds made of aluminum tubing were all that separated the groups of

children at the Acorn School, the third stop. It is a private school on the ground floor of an apartment building on East 26th Street in Manhattan.

The 5,100-square-foot area that the school occupies was originally intended to be subdivided into professional offices. Now, instead of walls, there are the scaffolds, and children move about freely from one area to another.

The private school was on the itinerary because of the keen interest that Dr. Scribner and members of his staff said that they had in getting space for schools included in more apartment buildings.

One of the advantages of converting an existing structure to school use, according to Alfred J. Lignon, is the low cost compared with putting up a new building.

"And it is even cheaper if you don't put up walls," said Mr. Lignon, who is treasurer of Community School Board 10, which operates the P.S. 26 Annex. "To build the school would have cost \$2-million; to put walled classrooms into Burnside Manor would have cost more than \$300,000. Our final cost will be about \$30,000."