Because of population increases, rising land costs and the rehabilitation of old sections of cities, school buildings in older urban areas should be modernized. Such facilities as cafeterias, libraries, physical education facilities, auditoriums, play areas, lighting and the general interior environment in school buildings may be inadequate. Inadequacies may exist because of increased enrollment and extended use. Where site conditions prohibit perimeter expansion, stack classrooms as two story units may be constructed. (GM)
Modernization of and Additions to School Plant Facilities

by Harvin C. Moore*

RESTORATION OF OLD AREAS IN CITIES ACROSS THE COUNTRY BRINGS ADDED NEED FOR MODERNIZATION OF SCHOOLS

According to current forecasts, during the next 40 years this country will add some 125 million people to its present population of 175 million and will reach the awe-inspiring total of 300 million. This will be double the population of 1940. If we are to maintain the standard of living and general environmental standards of the '40's and '50's, we will have to anticipate doubling most of our community facilities; for every school we now have, we will need two.

It is clear, therefore, from the population figures which the U.S. Census claims are conservative, that what we have to face from now on are not school "crash programs" and "emergencies," but rather a continuing expansion of need which cannot be met by recurring appeals for "one last great effort" but rather by a calm, well-planned, continuous effort, according to George Raymond, a planning consultant of White Plains, New York.

There is still another trend that we must face.

Philadelphia has undertaken, through private enterprise, to restore many historic old houses. The particular area known as Society Hill is currently undergoing vast rehabilitation and is drawing many families into that area.

As is the case in Georgetown, D.C. such rehabilitation and restoration brings added need for modernization of schools. We may assume that old areas throughout the country could receive face-lifting and be revitalized.

And, of course, this puts on added burden on the old schools in the area and a new emphasis on modernization.

The Houston Independent School District is now beginning a program of modernization, and, wisely enough, has chosen to rely on the services of capable architects. Too often, rehabilitation and modernization have been undertaken by ear rather than by architectural planning.

*Architect
2037 Lexington, Houston

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There is always the necessity for the development of a program based on need, on physical condition of the buildings, and on practical budget limits.

In many cases, classrooms over the years have become obsolete -- not necessarily by comparison with the latest new structures -- but by comparison with what constitutes a passable teaching station.

Chalkboards are inadequate, floors are beyond repair, no public address system reaches the room, painting is dark and dirty, lighting is grossly inadequate, teachers have no storage space, and elementary pupils have no coat storage.

These are relatively simple items, except for lighting and heating, which will be discussed by another member of the panel.

Old cafeterias present more of a problem. Lack of space sometimes suggests conversion into classrooms and the construction of a new cafeteria and kitchen if ground space permits. It is interesting in this connection to know that San Francisco employs $3\frac{1}{2}$ acres for elementary schools and at most 12 acres for secondary. If these standards could be noted, it would seem more simple to conduct a modernization program.

Elementary cafeterias present a special problem of providing stage space, since the cafeteria serves also for assembly, and careful planning frequently will provide space for the addition of a stage.

The so-called administration area in very old schools presents its own problems. Poor lighting exists, the public address console is many times poorly placed. The clinic has been located in any available space and books are stored in what were originally closets. A modernization of this section would seek to contribute to the efficient administration of the school with work room, storage, clinic, and adequate book room.

Many Houston schools were built long before libraries were included, and classrooms were adapted to that use. More and more shelf space, some specialized, is demanded, and frequently it becomes necessary to add a building for library facilities which now include besides book-space, a conference room, a storage room for visual-aid materials, and comfortable study space.

In the secondary school, more and more facilities are provided for physical education -- classrooms, adequate lockers, and in the Senior High Schools, a varsity locker room. The old gymnasiums were hardly adaptable for both boys and girls which makes necessary the addition of a girls' gymnasium with its necessary appendages.

Certainly, physical education modernization should look first to cleanliness with adequate showers to be used six periods a day.

Even shop facilities, although a comparatively recent development, must be modernized with class period storage and adequate utility services.
Campus conditions in many cases of the old schools have not been modernized to meet present-day teaching conditions.

City growth may have imposed traffic hazards that suggest surrounding the entire site with a fence. This fence also serves as a deterrent to vandalism.

Frequent complaints of excess water standing have brought loads of fill that have not been placed according to proper drainage planning, and these campuses many times are in need of a complete regrading to insure proper drainage.

Hard surface play areas have become a necessity, and many old schools do not have such a facility.

No longer is it possible to conduct a high school such as Old Central, later Sam Houston, was. There was no auditorium or meeting place, no play ground, no athletic fields, and no cafeteria. Athletic teams practiced in the YMCA or YWCA, in the old Buff Baseball Park, and assemblies were held out of doors where the administration parking lot is now located.

Throughout the nation, old schools are located on small sites and have been surrounded with commercial and housing establishments which have elevated land costs to a figure that makes acquisition of additional land undesirable and impractical. The overall effort to revitalize the thickly populated fringe business areas has increased land costs as well. This situation has been met in the Houston Schools in some cases by elevating the structure and permitting the use of the groundfloor as play-ground. Eliot and Bruce Elementary Schools were expanded in this manner.

It is possible under tight site conditions to stack classrooms as two story units, one room deep with a balcony serving the second floor. Such a solution has been developed at Crawford, Red, Looscan, and Blackshear Elementary Schools.

Since circulation becomes, in the modern secondary school, an important factor, it becomes necessary to accommodate certain ground floor entrances and to provide second floor access at strategic points. Such a problem was encountered at Pershing Junior High School where the auditorium access was left open as well as that of the new science wing by elevating on piers the 30 additional classrooms across the front. In this way the interior courts were left open for purposes of ventilation.

One important factor in any modernization program that must have expert attention is the bringing up to date of the structure to conform to fire and safety regulations.

Obviously, the modernization problem is not a simple one, and therefore is the great current challenge to the architectural profession.

There is no reason that practical modernization cannot restore our old schools to meet modern educational needs and be a living monument to the architects who meet the challenge.