Residence of Mr. and Mrs. Joseph A. Marcus, Washington, D. C.  Harold Lionel Esten, Architect   Robert C. Lautman Photo

- THE COMING END OF THE SUBURBAN BOOM

by Frederick Gutheim
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THE COMING END OF THE SUBURBAN BOOM

by Frederick Gutheim
President, Washington Center for Metropolitan Studies

The increasing urbanization of the United States has been frequently reiterated in recent years. About two thirds of the national population already lives in 216 standard metropolitan areas as defined by the Census. These metropolitan areas are cities embracing at least one central city with a population of fifty thousand or more and typically embracing a number of separate political jurisdictions. But beyond the fact that we are now a nation over two-thirds urban, substantially the whole of the anticipated future population growth is destined to occur in these great urban complexes.

The nature of the modern city is such that its growth has been taking place largely at the periphery. The central city, as it is only too clear from the 1960 Census, in most places is not growing or, as in the case of Washington, is actually losing population. As room has been found in the central city for new forms of transportation, parking, commercial and industrial growth; as the older congestion in slums has been removed; and especially as families with children have escaped the unfavorable environment of older cities and migrated to new suburban communities — these changes have left their mark on the central city. Most central cities in metropolitan areas today find they contain predominantly a daytime population of employees and customers rather than a resident population. Those who make their home in the central city tend to be the very young and the very old, the very rich and the very poor.

The predominant characteristic of our postwar growth has been the development of the modern American suburban community. We think of the suburbs as residential areas. While it is true that many of them are predominantly residential, it would not be accurate to neglect the equaliy great growth of decentralized manufacturing plants, shopping centers, or other forms of activity and institutions. Yet in most cases this related decentralization has taken place as business has followed its customers to the suburbs and established suburban and regional shopping centers; or as much business, requiring types of labor that exist in good supply in suburban communities, has found it easier to operate there than under the more congested or competitive conditions that prevail in the central city. It must be concluded that the suburban movement has been predominantly one of families seeking homes in the outlying parts of our large cities, and that the larger part of other suburban growth is related to this fundamental movement.

During the last fifteen years, since the end of the war, this suburban movement has taken place on an enormous scale. It has been estimated that four thousand families a day have been moving into new suburban communities. In general they have been occupying new homes built by the nation's builders who, during this period, have produced a million to a million and a half houses a year, almost all of them in suburban communities. These have been almost entirely single-family houses, at densities typically of four homes to the acre. Each has been thought of as occupying a large suburban lot, within whose limits many family activities, especially those connected with child care, could be accommodated. This type of housing consumes vast amounts of land, far more than row houses or apartments, and broad-front lots greatly increase housing costs, particularly in streets, water and sewer lines, and other land development items. The uniformity with which this relatively low-density housing development has been taking place, and the thousands of square miles that have been consumed by this process, coupled with the leap-frogging or bypassing of substantial tracts of vacant land in the process, has generated the descriptive term "urban sprawl" to describe this relatively unstructured suburban development. As an illustration of the rate at which open land has been consumed by suburban home-building, it is reported that if all the land withdrawn for urban use in the Santa Clara valley since 1947 were consolidated, it would approximate twenty-six square miles; however, subdivisions have been placed in such a manner as to commit a total area of two hundred square miles to urban development.

It is the uniformity of the appearance of today's suburban community that has given rise to the visceral apprehension of over-standardization. The San Fernando Valley, seen from the air, is such a thought-provoking spectacle. It is true that the external appearance of uniformity accurately reflects the relatively uni-

(continued on page six)
On May 9, 1961 the Montgomery County Board of Education approved the preliminary drawings for two new Compact Junior High School Buildings to be built from one design on two dissimilar sites identified as Parkland and Randolph. This compact design evolved after extensive research into the many new methods of instruction and mechanical aids which are being utilized in education, what is needed in a building to best utilize these advances and the experiences in other parts of the country in buildings built to accommodate these needs.

Dr. Thwait, the Superintendent, and his staff had set the objective that these buildings provide the most flexible space it was possible to have within the budget established for these two schools. They wanted the ability to adapt to new patterns of instruction and to be able to utilize new instructional aids as they are developed with a minimum of expense and confusion.

Fortunately, the scheduling of these two schools allowed adequate time to thoroughly investigate several approaches to solving the difficulties presented by the two dissimilar sites, the maximum flexibility requirement and the cost limitation. During this time three designs were developed for comparison of facilities and cost. These were a conventional type structure, a two-story compact, and the approved one-story compact design. Detailed analysis and cost estimates of the three designs were made which dictated the selected design. During the past few years a number of advances have been made, and too often only grudgingly accepted, in the approach to school design. For the sake of brevity, this article will not go into detailed explanation of how currently accepted practices evolved.

One of the most significant developments, which this office takes pride in having been one of its earliest advocates and developers, is the acceptance of artificial illumination of classrooms in lieu of relying on undependable natural daylighting. This has freed the architect from the rigidity of classroom size and shape, which was practically a national edict, established by the width of a classroom not exceeding twice the height of window glass above the floor.

Acceptance of the above has made it possible to provide the type of spaces needed educationally for team teaching. This rather recent development in instructional method requires immediately malleable spaces which will provide for large group instruction, small group discussion and individual study. Class groups will vary in size from 10 to 100 or more rather than the customary thirty students and one teacher in a rectangular box. Spaces are needed for students to listen to tapes, view films and slides and to work on self-teaching and self-appraisal machines, to name but a few. Those who are interested in further insight into the developing educational process and the problems it presents to the architect are referred to "Images of the Future" by Dr. J. Lloyd Trump.

The design of Parkland and Randolph incorporates provisions for the above type of instruction as well as for the more traditional pattern of teaching. The design is to serve these requirements and is not an effort to be different.

Flexibility and Team Teaching were the primary requirements and the latter dictated interior rooms which would main-
PARKLAND AND RANDOLPH JUNIOR HIGH SCHOOLS — FLOOR PLAN

It is not possible to achieve this with rooms strung along exterior walls, except where climate permits exterior travel routes, which is not the case locally.

Having determined on interior spaces, air conditioning was a result and not a cause.

In order to compensate for the additional cost of this necessity, it was necessary to incorporate every saving conceivable. The biggest factor is to insulate thoroughly and to reduce to a minimum (some debate has taken place as to what is "minimum") the amount of heat gain and heat loss surfaces, namely glass.

A study of the plan will show that, though there is not the extensive glazed surfaces we are accustomed to seeing in our schools, there is a considerable amount which is located to afford the most usefulness.

In this plan the corridors, always necessary as arteries of travel, are planned as permanent construction. The hollow on either side provides space for columns, lockers, teachers' closets, bookcases, etc. and for the future installation of such utility lines as may be desired. They are short, all classroom doors being within 100 feet of more than ample glazed entrances at the ends or in the lobbies. There is an open court within the building, placed adjacent to the classroom section. Students moving from one part of the building to another must pass or move through this landscaped court or sit there on benches.

The corridors will receive ample daylight for fast safe pedestrian movement in the event of power failure and since each room will have large glazed openings to these corridors, there will be enough borrowed light in these rooms for exit of room occupants at such times.

The Cafeteria-Student Commons room is oversized as a cafeteria space as it includes space that would customarily be devoted to a lobby serving the combination Gymnasium-Auditorium. It may be divided for dual use by operable partitions. There will be a portable stage and snack bar. This room also serves as a bus waiting space for students.

The Library Materials Resource Center opens into the main lobby which can be shut off from the rest of the building so that it may be used in the evening, week ends or during vacation if desired.

There is a liberal accessible plenum space over most of the building permitting the future installation of any desired mechanical lines.

Exterior walls of the building are to be hollow and this space is also available for such future installations.

Drain lines under the floors will be run in locations to permit future connections without tearing up permanent corridor floors.

The air conditioning system is not affected by variations in the sun load through windows in different rooms. Therefore its control system is very simple and inexpensive. A high-velocity, dual-duct, all-air system centralizes most mechanical equipment in one location, assures positive ventilation, efficient air cleaning, good control of temperature, humidity and noise. It permits both heated and cooled air to be available, upon demand, to each area of the building throughout the school year and rearrangement of room sizes for team teaching or as desired. This is particularly advantageous in this locality where in the Spring and Fall there is frequently a need for heating in the mornings and evenings but a need for cooling during most of the day. The peak refrigeration load is 300 tons or about 2/3 the tonnage required for classroom areas of a conventional school of the same area in this location. The heating demand requires a surprisingly small amount of supply when the building is occupied since the heat from lights and human beings is more than enough to handle building needs even when the temperature is 40 degrees outside.

Smoke detectors, installed in the return air ducts, automatically shut off all fans when activated and thereby eliminate spreading of smoke or flame through ducts in the event of a fire.

Toilet locations shorten plumbing runs. Electric runs are more economical. External noise is eliminated and interior sound can be largely controlled because doors and moving walls can be kept closed without temperature discomfort.

The structural system is simple, direct, and economical. These schools are fire-proof, having a steel frame and fire-protected bar joist roof structure. In general the structure including ceilings is of incombustible materials.

This design represents our solution to the various educational requirements which we were requested to provide within the allotted budget.

Believing that a School Board wants and is entitled to more than drafting service from its architects who are experienced in school work, we do not hesitate to express the following convictions.

Schools should now provide flexibility to accommodate the following:

2. Experiment with new teaching methods and equipment.
3. Adapt to the inevitable future changes in the educational process.
SUBURBAN BOOM
(continued from page three)

groups whose numerical significance is increasing require a quite different type of housing than the suburban home that has earlier been described. This changing housing demand has already been reflected in the markedly increased emphasis upon apartment houses of all types, both in central cities and in suburban communities, and in special types of housing for the elderly.

It is quite possible that we have at the present time substantially all of the conventional suburban housing that will be required for another decade or two. Not until 1980 do demographers anticipate any recurrence of the spectacular rate of family formation that characterized the period 1947-50.

If the demand for conventional suburban homes appears to be slackening, the difficulties that suburban communities have been facing have also been increasing to such an extent that the attractiveness of this way of living has been markedly affected. We have already entered a period of disenchantment with the image of suburbia that was so attractive ten years ago. Among the dissatisfaction that our conference has mentioned are the increasing cost of suburban life, particularly the cost of suburban governments due to their small size and general "balkanization" coupled with the abnormally heavy financial requirements of an extensive new school system; the low standard of public services in suburban communities, dramatically exemplified by such rudimentary problems as removing snow from highways; the low cultural and leisure standards of suburban communities where the capacity to make extensive outlays to build libraries, museums, concert halls, and other cultural institutions is weak and where even the provision of outdoor recreation facilities has been conspicuously inadequate; the increasing difficulties of transportation, especially the journey to work whether on crowded expressways or an obsolescent mass transportation system. The suburban communities of a metropolitan area have shown little ability to deal with their problems or even to find an overall view of them; and their spot deficiencies are many.

The catalog of dissatisfactions could be greatly expanded, and is steadily being enlarged.

The trek back to the central city from the suburbs has already begun. The principal factor seems to be greater choice in the housing market. Cities are also fighting back with urban redevelopment programs, proposals for rehabilitating central business districts and for generally strengthening their ability to provide a high standard of service for the central requirement of a much larger metropolitan area. They have the money. They are getting more Federal aid. Increasingly, suburban communities are being committed to the generally helpless image of themselves as specialized residential communities. Yet the diversification of suburbs is one of the principal future trends that are already discernible.

Diversification is taking many forms. There is within the framework of the residential suburb, a growing diversification of housing types and a greater range of housing costs. More apartment houses are being built. In some cases these are tall buildings; and in others, garden apartments. The significant thing is that they all represent far higher densities than any form of single-family dwellings that we have known. They also represent the advent of renting rather than home ownership in the suburban economy. The repercussions of this in local fiscal policy and tax debates have already become evident.

The second form of diversification in the suburbs is economic. The residential suburb is now being replaced in many areas by one that is more balanced in activity. It contains substantial areas devoted to manufacturing, services (other than local business, which has always been well established in the suburban community) and the development of other specialized economic activities associated with transportation, leisure, or cultural activity. Contrasted to the 1950 suburb, as it came raw from the hand of the builder, even the advent of churches, schools, and other rudimentary community institutions has been a notable development, bringing with it the pressure to find housing accommodation for such individuals as school teachers, ministers, and others who cannot typically afford high suburban home ownership costs. The diversification of economic status has also become evident. Today's suburb is increasingly less one of families with relatively uniform incomes, as was the case a decade ago, and increasingly marked by a range of incomes. Racial diversification is also a feature of many suburbs, especially the older ones, as Negro families of the central city have acquired sufficient capital to enter the suburban home-buying market and as they, like other immigrant groups, seek to share in the prevailing demand for suburban community living.

A revolution in transportation is making other changes, may have the effect of re-
duding the exclusive reliance upon travel by private automobile, chiefly on urban expressways, and substituting instead, at least for the journey to work, such forms of express mass transportation as electric railways, express buses in reserved rights of way in expressways, and perhaps even such advanced technological types as the low-pressure "air-car" that hovers over a barely improved right of way, or the monorail — both capable of speeds roughly twice that attainable by the private automobile.

The image of the future suburb thus is wholly different from the suburban community we have been creating, and making jokes about, during the last fifteen years. So far as that type of suburb is concerned, we can say with some assurance that the suburban boom has ended. The future suburb — whether developed from existing communities, or as new towns — will be markedly different, so much so as to demand a new word for it. Nowhere is this difference likely to be more conspicuous than in the distribution of population and the amounts of land required.

II

We are now on the threshold of metropolitan development in which suburban communities will be far more self-contained and independent from each other, and from the central city, to which they will always be linked for certain essential purposes. The free-standing satellite community may range from 25,000 to 100,000 in population. At the upper ranges it will be able to provide for virtually all of its basic needs, including a substantial part of the cultural activity that was formerly reserved for the central city.

Perhaps the most important distinction will be that the future satellite suburb will contain its population in a far smaller area than the older and more wastefully sprawling suburb. This development can be greatly furthered and will itself facilitate the retention of large areas of open land within the metropolitan area that are held free from urban development. Let me at this point call to your attention Senator Harrison Williams' bill to authorize loans for the acquisition of metropolitan regional open spaces, the principal Federal measure that has been offered, and which I regard as the first step in a more ambitious long-range program.

Metropolitan open spaces will be constituted by the aggregate of public and private open uses of the land. These include not only publicly-owned parks but agricultural lands and the resulting pattern of nine acres lost to either human or natural use for every acre required by urban development, it is possible to substitute a pattern where open space in its aggregate form is large enough, strategically located, and of such a character that it can contribute positively both to maintaining natural balance in metropolitan areas, and to providing room for the human activities and enjoyments that belong in our increasingly leisured and educated society.

From the viewpoint of the conservationist this consumption can be furthered by steps that will encourage the planning and management of open spaces in metropolitan areas in an overall fashion. There will not only be the immediate benefit of structuring and concentrating the developed areas which urban growth will require, but each use of the open space itself will gain strength from the other open uses and from being allocated according to its particular needs of area and type as well as location. We need a total strategy, if not a plan, for open space in each metropolitan area.

We are far from being organized to contribute as strongly as necessary to the creation of a future urban America along the lines I have mentioned. The urban programs of federal, state, and local governments have tended to ignore the reciprocal need for well-planned urbanization and firmly held open spaces. We have yet to make a beginning at inventing the necessary open uses of the land and of giving them a corresponding importance accorded the developed portions of the area. In few metropolitan areas do we know what particular pieces of land should be preserved because of their value as natural scenery, as habitats for wildlife, as recreation areas qualified by location and character, much less by their contribution to an overall plan of open spaces. The making of such metropolitan open space inventories is an immediate national need, one to be undertaken as speedily as possible in metropolitan areas with the aid of all possible and appropriate state and federal assistance.

To reflect in such inventories the greatest conservation wisdom and the broadest spectrum of interest in open space is an intellectual challenge that should enlist a response from our universities, museums, and other scientific communities, from our more thoughtful educators, conservation and recreational leaders, and cultural authorities, and from that wide-
spread network of citizens' organizations that have in the past been the mainstay of all our conservation and outdoor recreation programs. Working together, these groups can be counted upon to provide for each of the future cities in which our American population will be so largely concentrated the appropriate pattern of open spaces that will direct and concentrate the necessary urban growth into a wholly new and far more desirable pattern than the formless, sprawling, monotonous, wasteful, and inhuman suburbs that we have so heedlessly planned and built during the past fifteen years and which offer nothing in the way of a pattern for future urban development.

We have yet to determine what the urban areas in which the next sixty million Americans will live will look like or how they can be brought into being during the next forty years. But one thing is certain—the challenge must be faced in a creative spirit and not by assuming that we can project the older suburbs that we have known. Bold visions and humanistic ideas of the future city are what we need.

An address to the 26th Conservation Conference of the National Wildlife Federation, Statler-Hilton Hotel, Washington, D. C., March 8, 1961

CHAPTER WELCOMES NEW MEMBERS

ANTHONY LOUIS BATTISTONE

Mr. Battistone attended Catholic University, graduating with a Bachelor of Architecture degree in 1953. He spent 4 years with the Civil Engineering Corps at Little Creek, Va., serving as Clerk of the Works and as Assistant Public Works Officer. In 1958 he moved to Frederick, Md., where he resides on a 175-acre farm which he is turning into a wildlife refuge. Mr. Battistone has been practicing architecture in the Potomac Valley area since 1958.

DANIEL ROGER HANSON

Mr. Hanson graduated from Pennsylvania State College with a degree in Architectural Engineering. He has been an employee of the Corps of Engineers in Norfolk, Va. He has also been employed by Kaiser Engineering Division of Henry J. Kaiser Co.; Mills, Petticord & Mills and is now with Donald N. Coupard & Associates, of which firm he is an associate. Mr. Hanson has lived in this area since 1958.

TERRY FRED HOROWITZ

Mr. Horowitz worked with John I. Thompson, Engineers and the Army Corps of Engineers before attending Catholic University. While still in school, he worked for Jack C. Cohen, Architect. Upon graduation he entered the U. S. Navy, graduating from The Officer Candidate School at Newport, R.I. In the Navy he also attended the Civil Engineers Corps Officer School at Port Hueneme, Calif. He is presently employed at Cohen, Haft & Associates. Mr. Horowitz is a native Washingtonian.

WALTER SEIGEL

A graduate of Catholic University, Mr. Seigel worked for the architectural firm of Walton & Madden, leaving their employ to join the Air Force. He attended the Air Force Institute of Technological Design, and was trained as a design engineer. Upon separation from the Air Force he returned to the firm of Walton & Madden. For the past 2½ years he has been with Cohen, Haft & Associates. Mr. Seigel is a native of Washington.

The Old Stone House

The old Stone House on M Street in Georgetown, D. C., believed to be the oldest house in Georgetown, was built in 1766, and still stands. The legend that it was once Washington's headquarters has never been validated. In 1767 it was sold for 100 pounds, in 1953 for $90,000. In 1830 or thereabouts the house was used as engineering space for the work on the C and O Canal, and Washington's much earlier interest in that project may have caused his name to be thus linked with the house. The engineer of the Canal, who for a time worked in the House and designed most of the locks, bridges and other work in connection with the Canal, was a Frenchman by name Philabert Rodier. It is interesting to note that he was the great-grandfather of Gilbert L. Rodier, present-day architect in Washington.

Edwin Bateman Morris FAIA

Bradley Hills Presbyterian Church Hall, Bethesda, Md.
Duane & Lawrence, Architects
The Levittown Junior High School was recently completed in the Township of Levittown, Burlington County, New Jersey. The Structural Engineering Firm was Scullen & Marchigiani, Bethesda, Maryland; Mechanical Engineers, Garber & Cohen, Philadelphia, Pa.; Builder, Levitt & Sons, Inc., Levittown, New Jersey; Landscape Design is by Boris V. Timchenko. Construction started in the Fall of 1959 and was completed for occupancy in September, 1960. The school was built to house 1100 students, with 3 classroom wings and 28 classrooms. An additional classroom wing was added and occupied in 1961, with total enrollment now reaching capacity of 1700 students.

The Central Kitchen, which will feed all schools in the Township of Levittown, a possible total of 20, was laid out by Flamberg & Flamberg of San Francisco, California. There will be two more schools of this design built in the future.

Other facilities in the school include 2 Physics and Chemistry rooms, 2 General Science rooms, 1 Foods Laboratory, 1 Clothing Laboratory, 1 Family Living room, 1 Metal Shop, 1 Wood Shop, 2 Arts and Crafts rooms, 1 Choral room, 1 Band room, 3 Practice rooms, 1 Typing room, 1 Office Practice room, 1 Multi-purpose room with stage 70' x 89' with a seating capacity of 890, 1 Gymnasium — 82' x 100', 1 Faculty Dining Room, and Administrative, Guidance, Teachers' and Nurses' facilities.
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