

# **Another chance for housing: low-rise alternatives; Brownsville, Brooklyn, Fox Hills, Staten Island : [Catalogue of] an exhibition at the Museum of Modern Art, June 12-August 19, 1973**

**Designed by the Institute for Architecture and Urban Studies for the New York State Urban Development Corporation**

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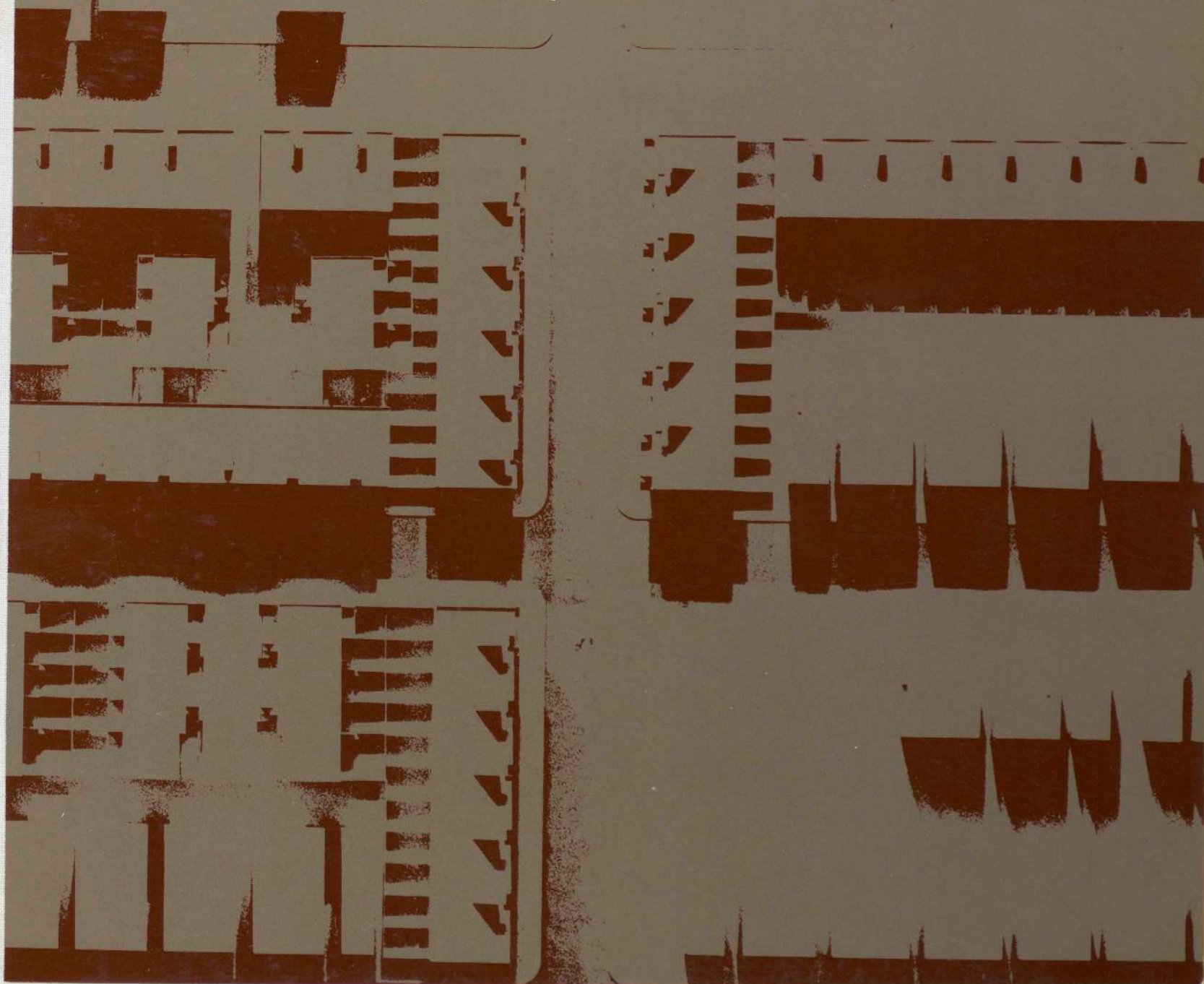
The Museum of Modern Art  
New York

**Another Chance for Housing: Low-Rise Alternatives**

**Institute for Architecture  
and Urban Studies**

**Brownsville, Brooklyn  
Fox Hills, Staten Island**

**New York State Urban  
Development Corporation**



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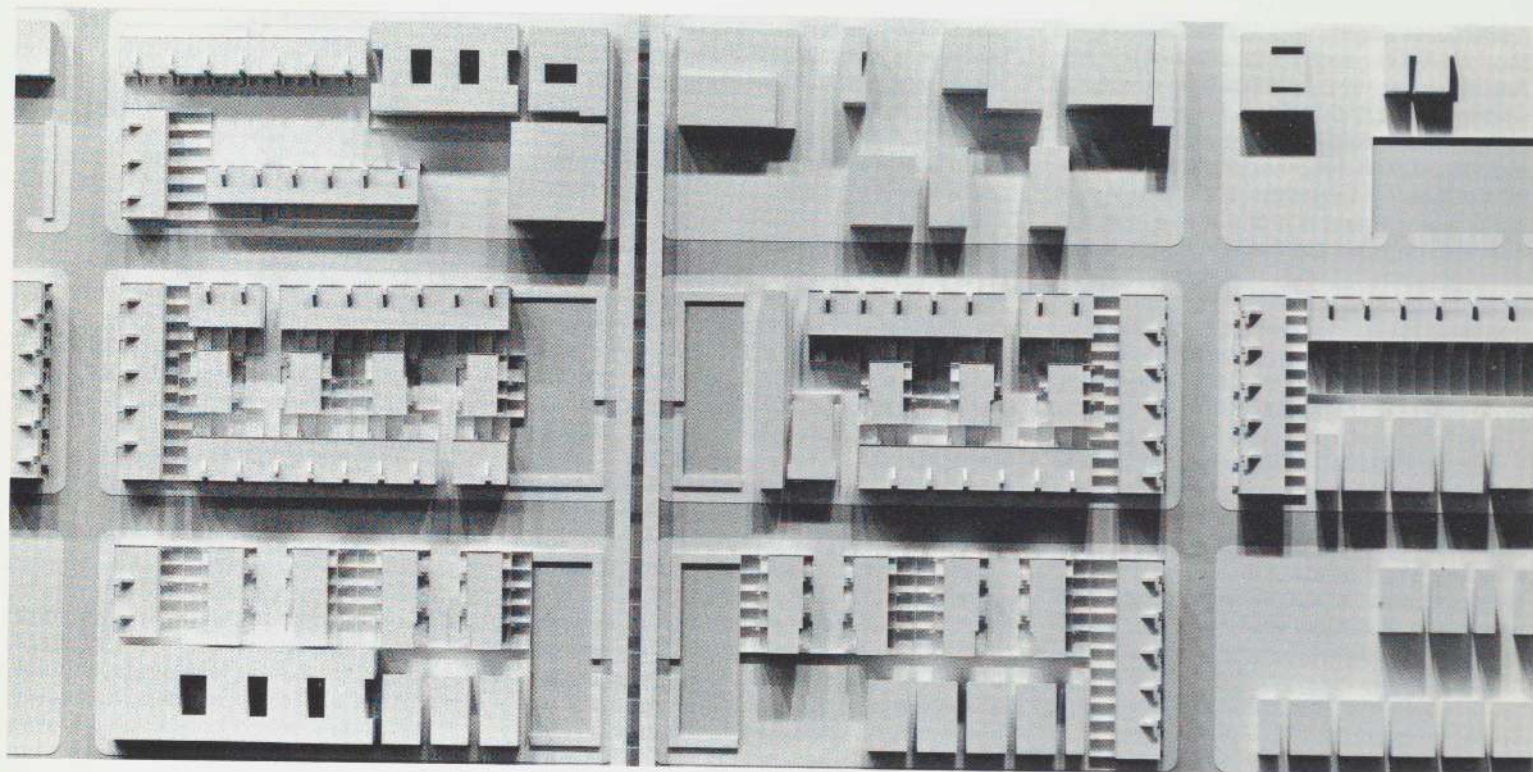
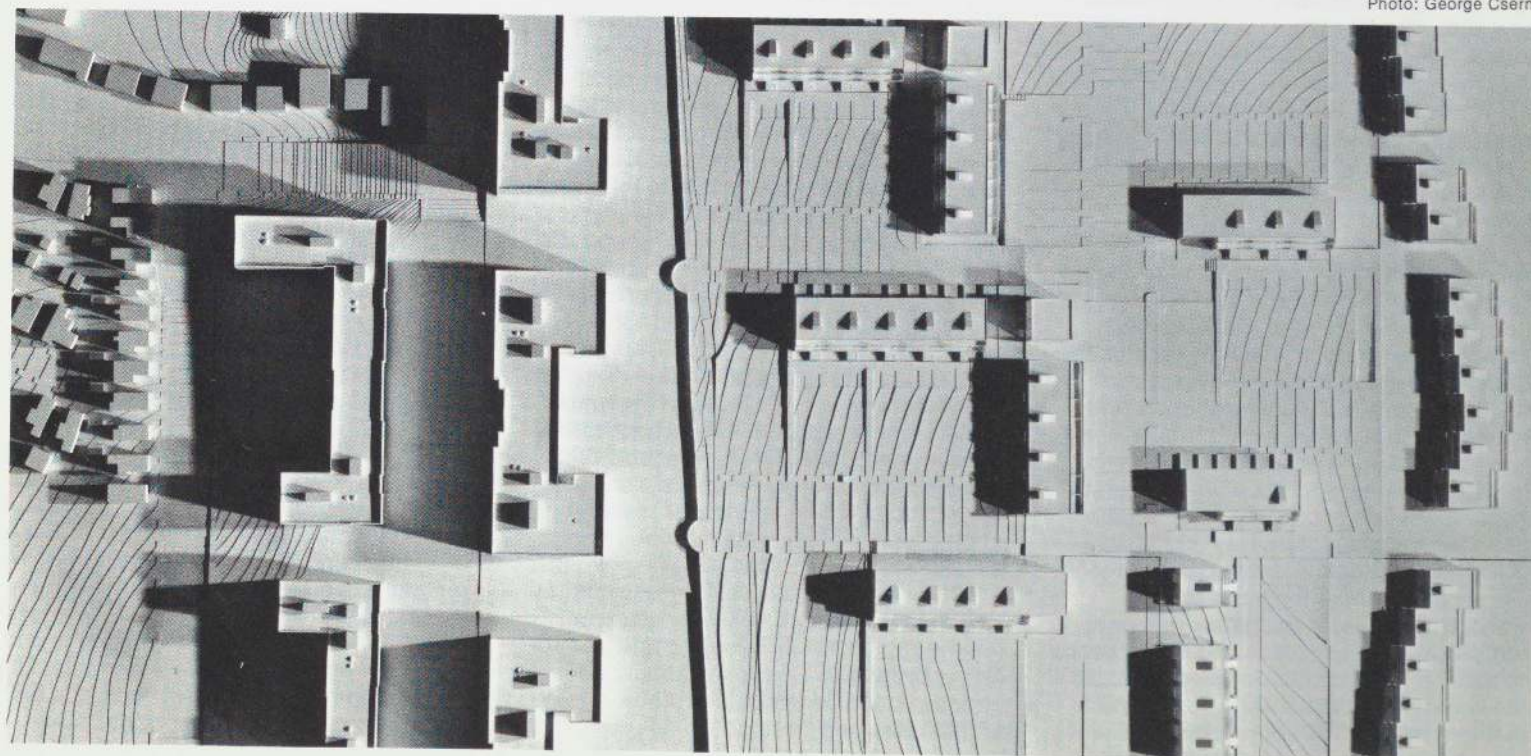


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## Introduction

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As its name might suggest, the Museum of Modern Art, through its Department of Architecture and Design, is concerned with the art of architecture. It recognizes — indeed it insists — that architecture even more than the other arts is bound up with ethics, social justice, technology, politics, and finance, along with a lofty desire to improve the human condition. Pending such improvement, however, we must continue to exist in the realm of contingencies, and the particular contingency with which we are here concerned is: how should the architect's art be used to devise humane housing?

It must immediately be acknowledged that any conceivable answer depends on prior assumptions about the meaning of words: art, housing, and humane. But art and housing, like the rest of life, do go on. With or without adequate definitions, where action is required it behooves us to offer some answers, or at least some helpful suggestions.

Toward this end the Museum's Department of Architecture and Design assisted in founding the Institute for Architecture and Urban Studies. The Institute is an independent agency; the Department of Architecture and Design may from time to time collaborate with it in the development of specific proposals, and in the effort to have them implemented where such initiative would seem to promise a perceptible improvement in the built environment.

Among the most important of the problems that both the Institute and the Museum can identify is that of housing. Public policy, determined as much by architects and planners as by other spokesmen of the community (although architects and planners might perhaps wish to deny this) has not lived up to expectations. Performance varies, and it is of the greatest importance that public agencies remain open to changing ideas. New York State is fortunate in that its Urban Development Corporation, under the leadership of Edward J. Logue, is an agency that does remain open to new ideas and in fact seeks to test them. In its collaboration with the Urban Development Corporation the Institute has benefitted from their immense practical experience, and the Museum is

pleased to present to the public what it believes is a constructive step toward a significant change in housing policy.

The evolution of housing concepts is itself a subject of considerable complexity. In order to clarify the nature of these concepts and their present status, a most informative and useful review of their history has been provided by Kenneth Frampton, a Fellow of the Institute and co-designer of two of the studies shown in the exhibition and in this catalog. A better understanding of the intentions behind unsatisfactory ideas about housing may yet help us to avoid further pitfalls, and in this regard it is important to emphasize that the term "low rise alternatives" means just that: low rise is not herewith presented as a new panacea destined to sweep away all housing more than four stories high. It is simply an alternative — presumably one of many — and its full utilization remains to be explored. Neither is it new; it has been tried, abandoned, and tried again, now it may finally be given the sustained development it deserves.

The prototype and its two applications at sites in Brooklyn and Staten Island, all shown here, begin with the assumption that low rise housing lends itself particularly well to reinforcing the nature and use of the street. It is the confusion between public and private that has led to the breakdown of both in so much recent building, and a reassertion of the separate and equally necessary roles of public and private space applies to the design of high rise as well as low rise housing.

On behalf of the Museum I wish to thank the many people in the Institute for Architecture and Urban Studies and the Urban Development Corporation who have participated in preparing these projects. It is the Museum's hope that this presentation of their work will promote informed public discussion.

**Arthur Drexler**  
Director, Department of  
Architecture and Design  
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The family housing now being built in the older cities of the United States seems to be falling behind suburban housing from the point of view of affording some sense of identification between the family and its dwelling. The cost of land and the difficulties of relocation have led to an ever greater emphasis on high rise buildings as the standard urban housing solution for families of low and moderate income.

These high rise "projects", as they are usually called, house a great many families on a relatively small amount of land, and they do provide decent living space in quantities which would be difficult to achieve at lower densities. However, their design and landscaping often remain quite sterile. The scale of such projects seems frequently to be way beyond any human dimension, and families, particularly young children, miss the feeling of a familiar, homelike atmosphere. Furthermore, such housing projects often seem not to fit in with the surrounding neighborhood, but rather stand apart from it.

We at the Urban Development Corporation think the time has come to ask ourselves whether the high rise, rather anonymous solution is the best one for low and moderate income families. Particularly, we ask, is it best for young children. By now we have had experience in building both high and low rise housing across the state of New York. (However, almost none of our low rise schemes are within the City of New York.) In our high rise developments, as in all our projects, we have chosen to emphasize high standards of design, and have tried to make the ground level spaces pleasant and interesting.

During our live-in program last summer, many members of the senior staff and their families were able to experience directly what it was like to live in our housing. Valuable insights were obtained from this experience and we hope to repeat the program again in the summer of 1973. We think there are situations where the high rise approach is the right one and we intend to continue work on improved high rise solutions. However, out of our live-in

experience and our concern for the identification of the family with its housing, and with an awareness of trends in Western Europe, we were pleased to have the opportunity of entering into partnership with the Institute for Architecture and Urban Studies (IAUS) in a joint attempt to provide a low rise alternative. After many meetings between the Institute and ourselves over a period of several months, it became clear that there was a consensus to focus on what we have been calling Low Rise High Density housing. In this we had to come to understand just how high was low rise and just how low was high density.

We had to focus particularly on what is called the "bedroom count". In the United States, density is usually expressed in terms of dwelling units per acre, whereas in Europe density is expressed in terms of people per acre. It was my own feeling, though I think it is widely shared, that what we were aiming at was offering this housing solution to families with an above average number of children, and therefore the final determination was what might be called a "low rise-lots of children" solution.

From the very outset, the parties agreed that this was not going to be another theoretical exercise with a planning report and a proposal which would wind up gathering dust on a shelf somewhere. Working with the local community groups, the Model Cities organization in Central Brooklyn, and with various city agencies, we developed a real site and a real program which is presently slated to get under construction on the same day the exhibition opens at the Museum of Modern Art. We are particularly pleased to have been successful in obtaining an allocation of 236 funds which will permit the housing to be made available to families of low and moderate income.

After very careful consideration of various alternatives, we determined that Brownsville would be a very good location for this pilot project. This is a neighborhood that has recently suffered serious deterioration. If it is to be rebuilt successfully, the new low rise prototype, both as a unit and as an aggregate whole,

must afford not only a sense of individual identity but also a sense of community. A second version of the low rise prototype is under study for a site on Staten Island. Here it is being adapted to preserve and enhance the amenities of suburban life before they are swept away by haphazard building.

The Urban Development Corporation has benefited greatly from the fresh perspective of the Institute, and I think it fair to say they, in turn have benefited from our experience with the very real world in which we must operate. Both of us have had to adjust our ideas of what we would like to what we could in fact seek to achieve. I am personally confident that the end result will be widely popular with the families who will live there.

We hope that the alternative here proposed will be useful to those seeking to improve the quality of life through housing not only in New York City but also in other cities throughout the state and the nation.

We are most grateful to the Institute and to the Museum of Modern Art for their willingness to co-sponsor this effort at improving the quality of the housing we provide. Through this exhibition and its accompanying catalog all New Yorkers can share with us both the problem and its proposed solution.

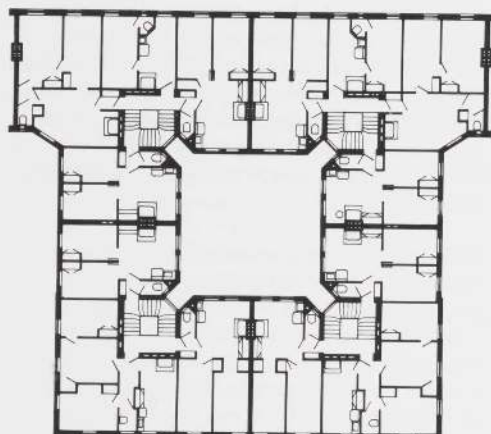
**Edward J. Logue**  
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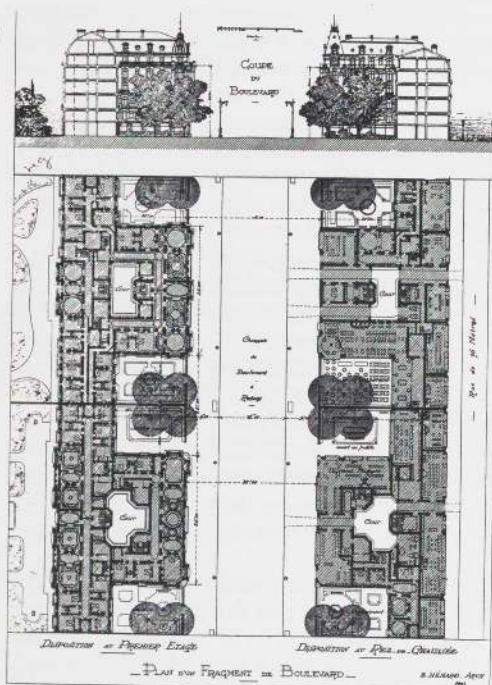
## The Evolution of Housing Concepts: 1870-1970

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- 1 New York. 1896. Ernest Flagg's model tenement which was destined to dominate tenement planning in the city for the next forty years. Note that sanitary fittings, etc. are included within the main living space.
- 2 Paris. 1903. Eugene Henard's Boulevard à Redans. One of the earliest 'anti-street' set back models, proposing garden courtyards opening directly off the sidewalk.

Many of the received models of modern architecture and planning owe their ultimate origin to the building code and public health reform movements of the second half of the 19th century. As such they emerged as attempts first to accommodate and then to control the escalation in urban population that had risen to crisis proportions by the middle of the century. The first reaction to this spontaneous urbanization was to house migrating rural labor in constricted tenements or back to back row houses, involving the wholesale superimposition of sub-human living conditions. The second reaction was to legislate against the more brutal aspects of this instant housing and to postulate alternative models for the accommodation of the urban populace; models which would provide higher standards of space, access, light, ventilation, heat and sanitation. The third and final reaction, from the point of view of basic model making, was to propose the gradual disurbanization of rich and poor alike; to advocate the planned dispersal of their urban congestion, at locations and densities which were clearly intended to be rural. Where the first reaction engendered the promiscuities of the 19th century industrial slum, the second eventually brought forth the Bye-Law street in England and the Old and New Law tenements in the United States. Finally, in the last decade of the century, the third reaction, as formulated by Ebenezer Howard, in his book, *Tomorrow, A Peaceful Path to Real Reform of*, pointed clearly to the garden city as a panacea for all our social and economic ills.

In each instance the proposed models of built form were not neutral in respect to either the physical differentiation of public space or the physical pattern that would necessarily result from their repetition. In either case, particularly after the turn of the century, the full human consequences of adopting 'open city' models, be they urban or suburban, were not foreseen. It was naively assumed at different levels of sophistication, from Raymond Unwin's *Nothing Gained by Overcrowding* of 1918 to Le Corbusier's *La Ville Radieuse* of 1930, that one simply could not suffer from a surfeit of the essential joys, namely sun, light, air and

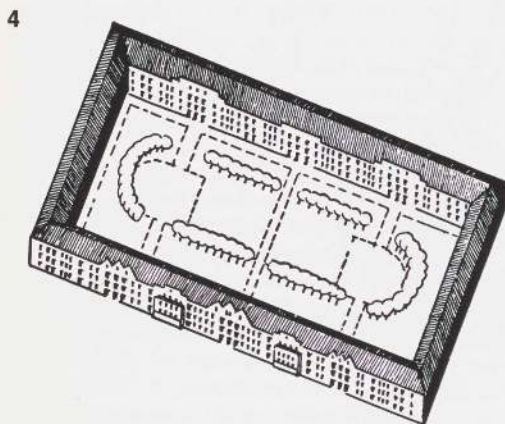
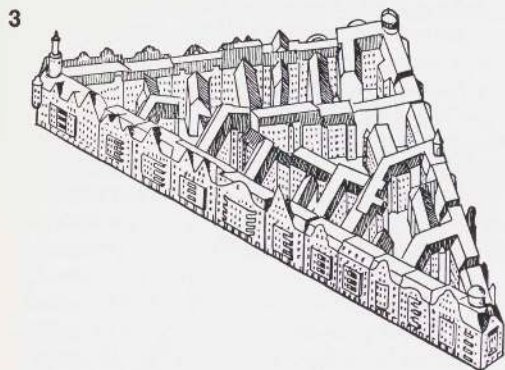
green space. In short, with some exceptions, the potential disadvantages of rendering every building as freestanding as possible were largely ignored. By the same token, few designers and theorists were fully cognizant of the incapacity of such models to differentiate open space adequately. A rambling green carpet set at grade, flowing out between isolated buildings, was thought to make amends for any loss of enclosure and, in the case of high rise structures, to more than compensate for an inherently unsatisfactory relation to the ground. In a similar way few could foresee (least of all, perhaps, garden city proselytizers such as Unwin) the unmitigated waste that would necessarily result from the wholesale proliferation of a corrupted garden city model. Such men displayed little awareness of the potential of this model to degenerate into the ribbon and track house development of the 20th century.

### Tenement Development and the Anti-Street Models of the 19th Century City: 1879-1938

Prior to 1918, in rapidly expanding urban centers such as New York, Paris and London, theoretical notions about city block planning underwent certain transformations. In New York persistent attempts were made to achieve an improved standard for low-income housing after the model tenement designed by George Post and George Dresser in 1879, while in Paris Eugene Henard attempted a reworking of the standard Haussmann boulevard in his set back street model of 1903, which he called a *boulevard à redans*. (Fig: 2) Meanwhile, in London, Unwin and Parker employed a comparable set back terrace for picturesque effect in their Hampstead Garden Suburb of 1906. This same tradition was to be continued by Le Corbusier who, a decade later, projected, in following Unwin, a system of set back blocks to be compiled out of a free assembly of standard concrete units; his famous *Maison Domino* of 1915. All these set back solutions were endemically anti-street in as much as they constituted a conscious disruption to the enclosing continuity of the traditional street.

In New York a number of architects were to develop the Post and Dresser model





tenement further, particularly Ernest Flagg whose Improved Housing Council tenements of 1896 demonstrated the potential of an internal set back profile to provide adequate light and air to every room in the tenement. (Fig: 1) Flagg's model of 1896 was destined to dominate New York tenement development for the next forty years, culminating in the Paul Lawrence Dunbar Apartments of 1926 and ultimately in the Harlem River Homes of 1938. Both of these schemes pushed the space-making potential of the internal set back block to its natural limit. By this date, however, one may detect an incipient tendency away from maintaining the continuity of the street, particularly in the prototypical schemes submitted to the New York Housing Authority in 1934. It would seem that the implicit internationalism of the New Deal had begun to turn the attention of American architects away from the street, towards the set back block and the row house models of European Rationalism — models which envisioned the total transformation of the city into a continuous park.

#### The Evolution of the Perimeter Block Model 1895-1923

In middle Europe, model tenement development took a totally different course; one which above all else was intent on maintaining the street. From the Berlin tenement reform law of 1897 (Fig: 3) to H.P. Berlage's plan for Amsterdam South of 1917, designers and theorists in Germany and Holland move toward the development of a perimeter residential block that would preserve the plastic continuity of the street while opening up the resultant courtyard for use as an enclosed semi-public space. Such a multiple-dwelling model had already been demonstrated on a small scale by Frank Lloyd Wright in his Francisco Terrace apartments built in Chicago in 1895. It was to be realized on a much larger scale in the building out of Berlage's Amsterdam South and in J. J. P. Oud's *Tusschendyken* housing built in Rotterdam after 1918.

By the mid 20's the perimeter block model (Fig: 4) was to enjoy a brief period of universal acceptance as the standard European building block for low cost urban housing. As such it made its pres-

ence felt on the outskirts of cities as far removed from each other as Berlin, Vienna and Helsinki. Such widespread adoption seems to have come at a time when the model itself had already been significantly modified, most particularly in Michiel Brinkman's *Spangen* housing built in Rotterdam in 1921 (Fig: 5) The importance of this, still relatively unknown, work lies in the fact that it enriched the inner space of a typical Berlagian courtyard block through the provision of an elevated deck, giving continuous access at a third floor level to a periphery of duplex units. The width of this open deck was hypothetically such that it could serve as a surrogate street affording adequate space not only for access and service but also for children's play and doorstep conversation. Brinkman (like the Smithsons after him in the 50's) conveniently overlooked the fact that such a street is inevitably one sided and only partially enclosed and that in any event its width is hardly likely to be adequate for all the uses to which it is theoretically dedicated. Nevertheless the importance of *Spangen* lay in the fact that it introduced a totally new device for providing access to mass housing, namely the deck; its recent seminal influence extending from Alison and Peter Smithson's Golden Lane Housing projected in 1952 to Davis Brodie's Riverbend Housing Harlem, designed in 1964. Its latent specific impact, however, lay and indeed still lies, in its capacity to suggest a more differentiated and dense scale for low rise housing which, while preserving the continuity of the street, is capable of individuating the separate units and of permitting their more immediate connection to the ground.

#### The Influence of Le Corbusier: 1922-1956

Both Henard's set back block and Berlage's peripheral courtyard model were to find their brilliant if relatively unrealizable synthesis in Le Corbusier's hypothetical city for 3 million inhabitants of 1922. (Fig: 6) In Le Corbusier's *Ville Contemporaine* each courtyard block enclosed a large communal green space, while his set back structures advanced and receded amid a continuous parkscape. In both instances the residential units comprised two story, L-shaped, duplex units each enclosing its own garden terrace. These

3 Berlin. 1900. Courtyard tenement planning after the reform law of 1897. Irregular courtyards contained within a larger peripheral block that re-aligns the whole development with the street.

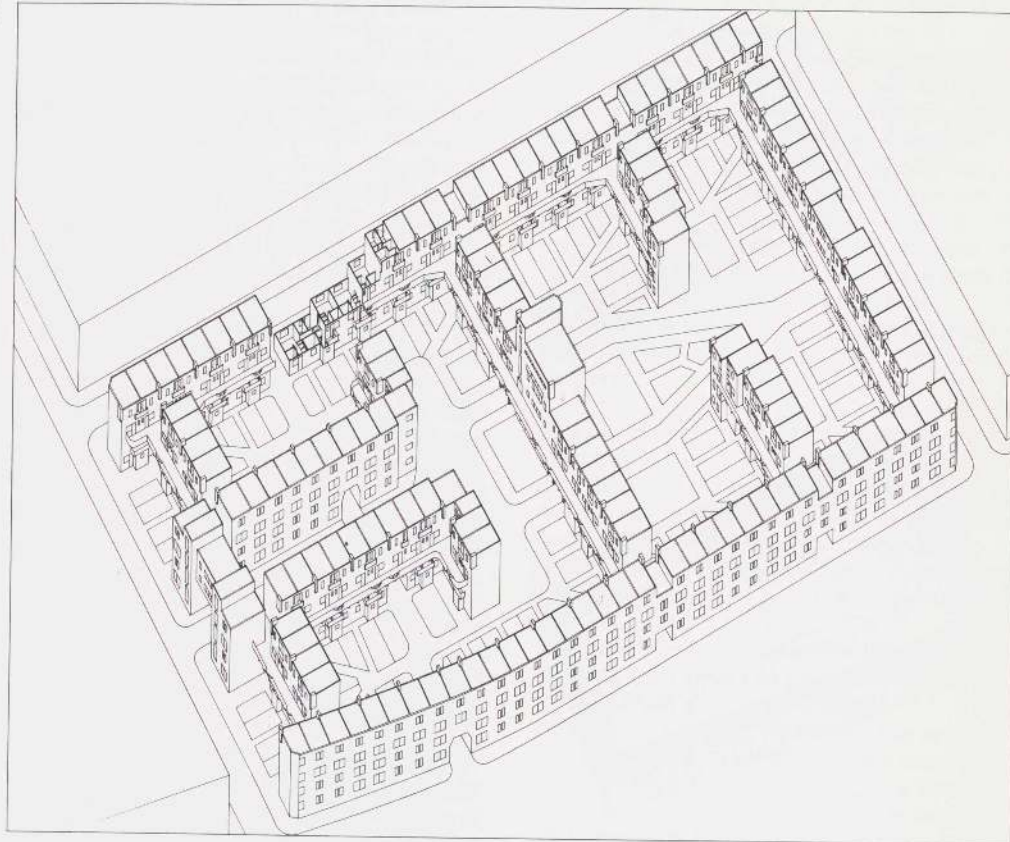
4 Berlin. 1925. Typical European peripheral block planning. This particular version became the legal maximum development in Berlin after 1925.



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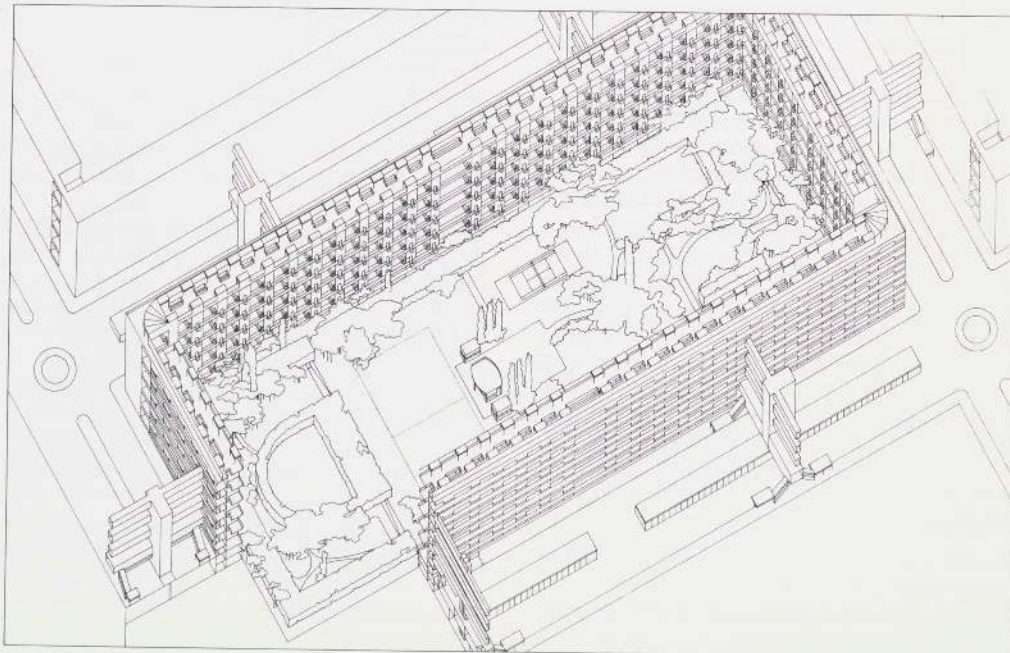
- 5 Rotterdam. 1921. Spangen Housing. Michael Brinkman's tiered two story houses served by an elevated deck. The deck connects all the units peripherally to the public facilities located in the center, while the perimeter re-aligns the whole development to the existing street grid.

5



- 6 Paris. 1922. Le Corbusier's projected version of a peripheral courtyard block with deck access.

6



- 7 Essen. 1870. Krupp worker's housing. The highly rationalized layout anticipates the later Zeilenbau approach of the Weimar Republic.
- 8 CIAM. 1930. Walter Gropius' didactic demonstration of the advantages of high rise over low rise, in respect of optimising the amount of open space between blocks.
- 9 Zurich. 1932. Neubuhl. The Zeilenbau model handled as a low rise garden city on a sloping site.



were fed by wide access decks elevated some five to eleven floors above grade. In many respects this city, projected at a regional scale, constituted a threshold in the development of these European housing models. From now on the general tendency was towards the ultra-rationalist line of the Modern Movement, a line which was to extend from the Krupp housing built in Essen in the 1870's (Fig: 7) to the medium rise open row, *Zeilenbau*, house model of the Weimar Republic. (Fig: 9) Despite the fact that Le Corbusier was always to remain somewhat outside this particular progression, he nonetheless brought the residential unit to its logical formulation as a free-standing, self-contained, self-sufficient slab (the neighborhood unit as megastructure). Le Corbusier was quite as ambivalent to the tradition of the enclosed street as any garden city planner. After Henard and Unwin he could only accept the continuous facade if its length were broken with set backs. Not least among his grander aims seems to have been the "rustification" of Haussmann's Paris through the introduction of new prototypes operating at a vastly increased scale. Of these Radiant City prototypes, it was the high rise residential tower rather than the freestanding slab that was to exert the greatest impact on the spatial pattern of New York. Developed in the late 30's as a density booster for low income housing in Sweden and Holland, the tower became the received norm of the New York City Housing Authority from 1934 until the early 60's. In the interim both the slab and the tower were to play mutually disjunctive roles in the formation of so called mixed development, i.e., the high and low rise mix that dominated English planning in the immediate post war years.

### The Evolution of the Open Row Model 1923-1933

The radical change in German residential block planning in the middle twenties is best exemplified in the work of Otto Haessler. Between his *Siedlung Italienischer Garten* of 1923 and his *Siedlung Georgsgarten* in 1924, the overall model becomes totally transformed from a block arrangement facing directly onto the street, to that which was already the *Zeilenbau* approach, namely, open rows of identical

length, set endward to the street, and arranged a standard distance apart. Nothing now remained but to increase the height of the typical Haessler three story walkup block through the judicious use of elevators. (Fig: 8) This much Gropius was to make clear in his essay for the CIAM publication, *Rationelle Bebauungsweisen* published in 1930, where he wrote: "In a ten or twelve story high rise apartment even the ground floor occupant can see the sky. Instead of lawn strips only 20 meters wide, the windows face landscaped areas with trees which are 100 meters wide and help to purify the air as well as providing playgrounds for children." This rationalist slab, justified largely on the basis of the space liberating potential of American technique (Gropius illustrates his text with the *Sunlight Towers* proposed by Kocher and Ziegler) was destined with the residential tower to become the prime high density housing model of the post 1945 era. Until then, at least in Europe, the three to four story walk-up row house continued to predominate as the received type and was to serve as such in the exemplary *CIAM Siedlung Neubühl* realized outside Zurich in 1932. (Fig: 9) Once again the triumph of one model, namely parallel rows of freestanding blocks or slabs, seems to have led almost at once to its counter thesis, that is to the projection of carpet-courtyard housing as an overall solution to the problem of housing at relatively high density. First Adolf Loos in his *Heuberg* houses of 1923 and then, in the late twenties, Hugo Haring, Ludwig Hilberseimer and finally Mies van der Rohe projected various versions of the courtyard house, as a new unit of land settlement, while in 1933 the Dutch architect Leppla designed a two story low rise house that was capable of yielding the remarkable density of 350 persons per acre. Although hardly a courtyard house, it is of interest that a few years later Frank Lloyd Wright was to propose his *Suntop Home*, built at Ardmore, Pennsylvania, as a new unit for dense suburban settlement in the States.

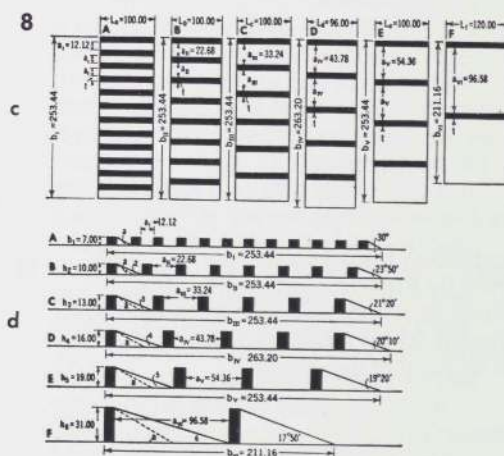
### The Evolution of Low Rising Housing: 1948-1966

The first stirrings in this direction were to come immediately after the war, just at that moment when the isolated tower or

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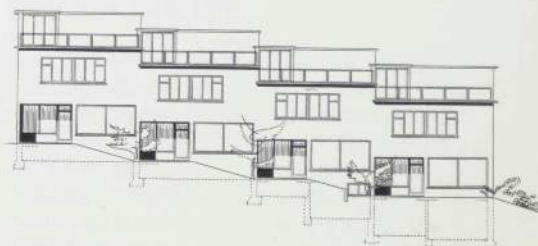
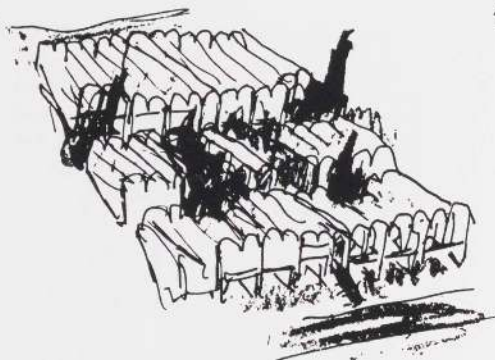


Fig. 9. Typ A, Siedlung-Neubühl 1932



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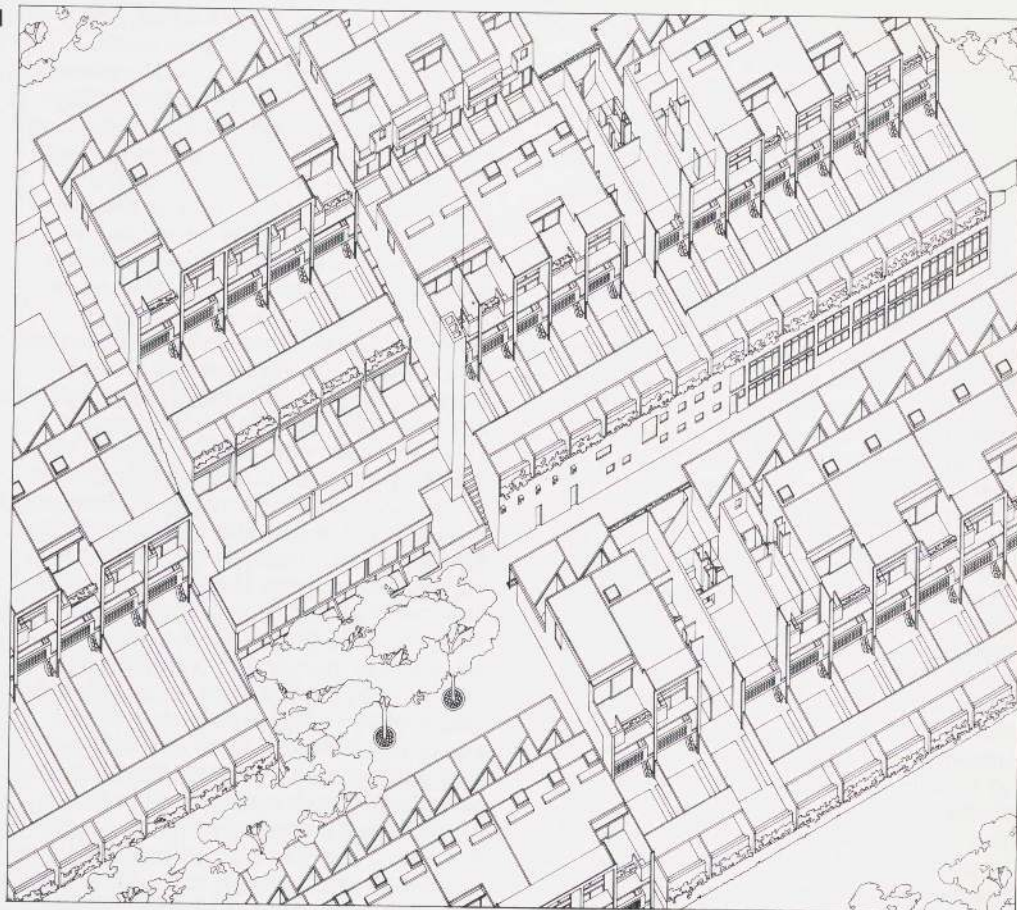
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- 10 Cap Martin. 1948. 'Roq et Rob' Housing. This project made at the same time as the 'La Saint Baume' project exemplifies Le Corbusier's revival of the Mediterranean vaulted megaron as a basic living module.

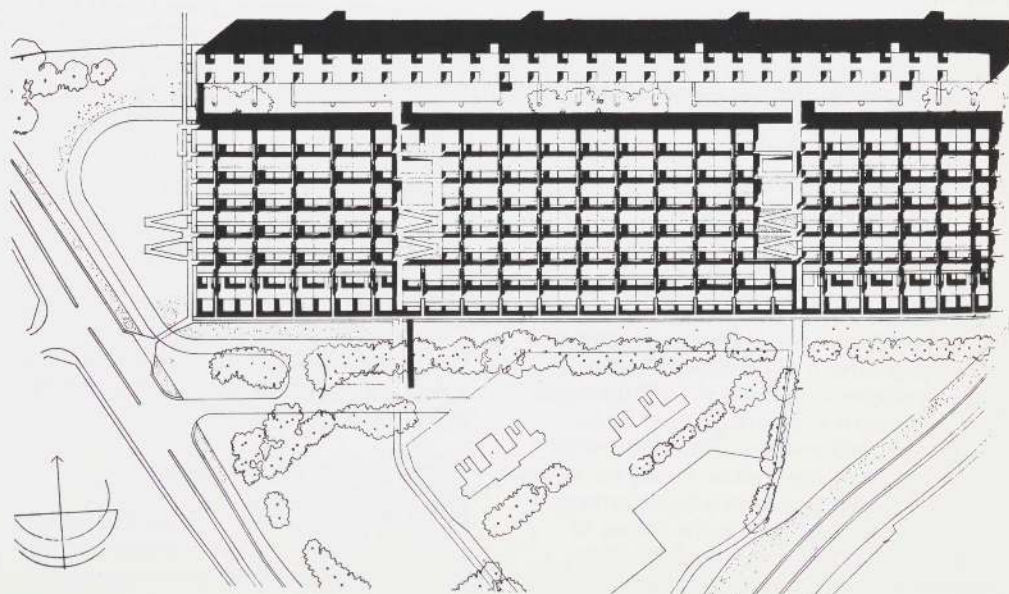
- 11 Bern. 1962. Siedlung Halen. The 'Roq et Rob' model realized to the designs of Atelier 5 as a low rise high density 'enclave' outside Bern.

11



- 12 Portsdown Housing Competition. 1966. Entry by Brawne, Gold, Jones and Simpson. A subtle version of mixed development taking Halen and Bishopsfield as its point of departure.

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slab and the open row house had become universally accepted as standard components for the planning of residential areas. Paradoxically enough Le Corbusier was to make some of the running in this return to a low rise paradigm, although he was never to build housing in this particular form. His first essay in carpet housing (save for his university quarter of 1923) was made in 1948 with his project for *La Saint Baume*. (Fig: 10) This project, whose urban and spatial structure derived directly from Le Corbusier's revival of the barrel-vaulted megaron of the Mediterranean, patently served as an essential point of departure for the most seminal low rise scheme to be built after the Second World War, namely, *Siedlung Halen* completed outside Berne in the early 60's. (Fig: 11)

The decade leading up to *Halen* was to witness the growth of the so called Brutalist sensibility, which was to reject outright not only the fragmented latter day Garden City approach of the first English New Towns, but also the equally sterile *Zeilenbau* model as interpreted in the first English high density schemes of consequence to be built after the war. This new sensibility stimulated by vernacular sociology and by a polemical re-evaluation of the virtues of the enclosed Bye-Law street of the 19th century, sought, in the words of Peter and Alison Smithson, to establish patterns of association and identity which would lead "to the development of systems of linked building complexes which would correspond more closely to the network of social relationships, as they now exist." To this end their Golden Lane housing, modeled partly after Le Corbusier's pre-war *redent* planning and partly after Brinkman's *Spangen*, postulated an elevated deck as a surrogate for the Bye-Law street; a concept that conveniently ignored the essential phenomenological character of a double sided traditional street. Nevertheless this sensibility asserted its relevance in an era of mixed development, with its easy acceptance of discontinuous and ill-differentiated open space and with the inequality of amenity that it afforded to blocks of markedly different height. As one observer put it: "If the tenement forced integration, mixed development

forced segregation."

If they fell short of their goal of designing for social relationships as they actually existed, there is no doubt but that the Smithsons' 'close' and 'fold' house proposals, together with James Stirling's village infill project of the mid 50's did in fact constitute a totally new strategy for housing. By the late 50's, the English, under the influence of Le Corbusier, were already oriented towards the adoption of low rise housing as a general policy. It took some time, however, for this model to become widely accepted. The idea encountered nothing but resistance from British public authorities throughout the next decade, first in London where the Martin/Hodgkinson four story walk-up proposal was rejected outright on the grounds that it was too 'advanced' for the average tenant and later in the highly influential Portsdown Housing Competition of 1966, (Fig: 12) where the assessors characteristically disapproved of what they termed the 'carpet treatment' in the housing. By then, however, resistance was faltering since the inherent livability of the idea had already been adequately demonstrated, first in Michael Neylan's layout for courtyard housing at Bishopsfield, Harlow (Fig: 13), designed in 1960 and then with *Siedlung Halen* realized outside Bern to the designs of Atelier 5 in 1962. Since then low rise high density development has dominated British housing policy with on the whole felicitous results, while in Switzerland so called 'carpet housing' has become the standard technique for building on steep slopes which hitherto were regarded as undevelopable. Even in America this model has begun to gain some acceptance; particularly in the recent UDC low rise housing designed by Werner Seligmann for Ithaca, New York.

It would be too much to claim that low rise high density housing has begun to resolve the antagonistic split that opened up in the last quarter of the 19th century between town and country, but at least one may finally acknowledge its pertinence as a mediator in an era when the time honored distinctions between urban and rural are rapidly disappearing.

13



13 Harlow. 1960. Michael Neylan's 'carpet courtyard' housing for Bishopsfield, Harlow.



## The UDC and the Evolution of a Housing Policy

12

In the years since the end of the Second World War publicly assisted housing in America has offered more by way of failure and lack of commitment to housing than it has satisfactory accommodation for low and middle income families. In Europe the experience has been different. The devastation of the Second World war, the lack of resources and the desperate need for housing, led the Europeans to experiment with a more differentiated range of housing types. Their experience over several decades and their clear commitment, not only enabled them to build to far superior standards but also to establish new communities whose social viability was immediately ratified.

During the first years of UDC's existence, after its incorporation in 1968, the emphasis was on getting things built. Design quality was then to be assured through employing architects of high calibre and through a process of conscientious design review. The result was the realization of a number of relatively successful housing developments. UDC's constraints at that time were mainly the Federal Guidelines as laid down in the Minimum Property Standards. These were always in conflict with our desire to build to higher standards, both spatially and physically. The first round of UDC projects is already history and may be seen as a unique achievement in the rapid creation of housing stock that went some way towards eliminating the stigma commonly attached to public housing. Many participants in the design and development process, including community representatives, asked questions that could not be answered until occupants moved into the first generation of dwellings. "Does attractive housing mean safer housing?" "Is your housing an asset to the neighborhood and community in which it sits?" "Are your rooms large enough?" These and other questions relating to livability demanded answers. As a result UDC became interested in improving its criteria for housing; a process that recently culminated in the adoption of upgraded space standards.

UDC has found that "learning from experience" is essential to the evolution of a viable housing policy. Good design

for us means housing that is not only attractive in appearance, but convenient, durable, flexible and above all equipped with related facilities responsive to people's needs. It means the creation of housing which is sensitively integrated into the context in which it is situated. It means the construction of livable units that respond to cost limits while bearing in mind the overall impact on the life style of the occupant.

By now UDC has evolved a procedure and a set of criteria which are issued as general instructions to both the architect and the corporation. These internal standards help us to establish an appropriate program for each site and serve as guidelines not only in the initial design phase but also for the evaluation of the project after it has been completed. In this way it is intended to update criteria in what will amount to a cyclical process of refinement and revision. Such a procedure should help the UDC to reflect the desires and aspirations of its tenants. It should also demonstrate that housing a low to moderate income populace can create a community asset and not an additional urban problem.

**Theodore Liebman**  
Chief of Architecture at UDC



## Low Rise High Density: Issues and Criteria

There are a number of ways by which one may isolate the most critical issues affecting the quality of housing. One may either work through direct experience or by studying data drawn from current user needs. Alternatively one may analyze the most recent criteria established for the design of housing. In practice the IAUS and the UDC were to use all of these methods as a way of arriving at a reassessment of the salient issues which a future housing alternative could be reasonably expected to meet. Amongst these issues we gave special priority to the following.

- 1 The establishment of a physical environment which could be capable of inducing at one and the same time both a sense of community and a sense of propriety, at a number of different scales. Where the former is evidently dependent on the capacity of the units to aggregate in such a manner as to evoke a sense of neighborhood compatible with pre-existing urban grain, the latter depends on a number of detailed variables affecting the individual unit, such as the particular mode of access or the possibilities for surveillance, or conversely the freedom from overlook.
- 2 A whole cluster of secondary but nonetheless crucial issues seem naturally to follow from these master concerns for community and propriety, in particular the potential for adequate child supervision from the dwelling and the capacity of the design to induce in each household the desire to contribute to the spontaneous maintenance of the scheme as a whole. This last seems to stem directly from the general sense of ownership induced throughout the scheme, while the maintenance of security directly derives from an inherent capacity of the arrangement to provide for adequate surveillance.
- 3 Beyond these concerns there remains the demand for the dwelling to be as responsive as possible to the varying needs of the individual. This issue turns on the problematic notion of "built-in" flexibility; that is on the inherent capacity of the environment to be modified in accordance with the inhabitant's changing needs. In order to meet this option we attempted to provide more than one living space and to allow for bedrooms to

double as either play or living spaces.

Before designing the prototype we had to translate these rather broad issues into a set of specific criteria for a housing prototype that could be applied with equal ease in either New York City or elsewhere in the State. It was thought that with only minor adjustments this prototype should be equally applicable in either urban or suburban situations, at densities which would be capable of not only promoting social interaction but also of assuring economic viability. With this model we intended to bring to the city dweller many of the immediate amenities that the suburbs have to offer, most particularly the private house with its private yard, while at the same time proffering to the suburban home owner a pattern of development which would create that specific sense of neighborhood that often seems best to be found within the city. The specific relationships that follow are typical of those which played a critical role in determining the final form of urban low rise housing now being built in Brownsville.

In order to induce a balance between propriety and community we sought to provide as many units as possible with their private entrance directly on the street, while at the same time clustering these entrances around public stoops. This had the immediate effect of limiting the rise and extent of internal public staircases and eliminating corridors entirely. In order to maintain security and to provide for immediate child supervision, the living spaces were to be disposed so as to afford easy surveillance over both the public street and the private yard. Hence all of the larger family units have a double aspect. Apart from cross ventilation this double aspect would also assure that at least one living space would have an appropriate orientation.

In general our criteria were derived more from the single family terrace house than from the multi-family high rise building. At the next scale above the house we sought to achieve a sense of territoriality by striving for outdoor spaces that would clearly differentiate between private, semi-public and public space. Finally,

in the units themselves we tried to reflect the necessity in the case of a large family for the overall living space to be capable of simultaneous and conflicting use by different family members and for the other spaces, bedrooms in particular, to be capable of being acoustically isolated. In this respect we saw the public porches and stoops as providing an alternative to the private terrace.



**The Institute for Architecture  
and Urban Studies**

Kenneth Frampton  
Peter Wolf

**The New York State Urban Development  
Corporation**

Theodore Liebman  
Anthony Pangaro  
J. M. Kirkland

**Exhibition**

*Models*

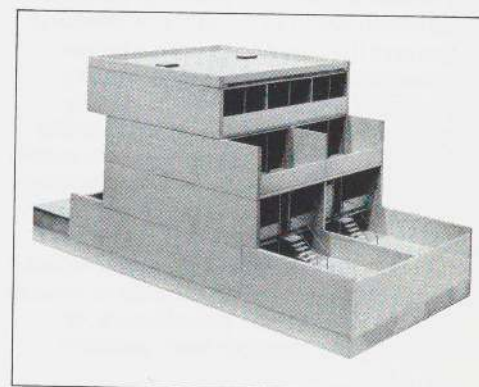
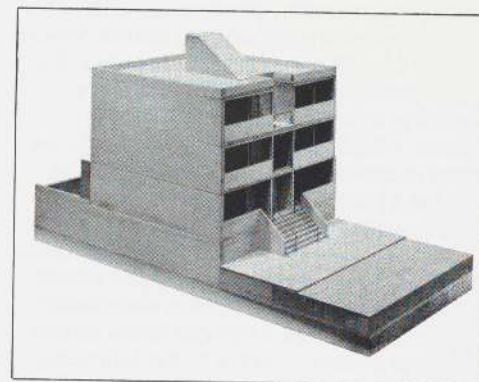
Latif Abdulmalik, Randall Korman,  
George Raustiala, Jr.

*Drawings*

Victor Caliandro, Carl Larson, Glen Olin,  
Paul Rosen, Peter Saitta,  
Thomas Schumacher

## Low Rise High Density Prototype

As the site model on the opposite page indicated the initial prototype was predicated on a system of inset off street parking, shown in the top left hand corner. The alternative to this system was to have been chevron parking, off a controlled street of narrower width, shown at the bottom on the right in the test application to the Brooklyn site these parking principles had to be abandoned due to the necessity to park in groups. Similarly the prototypical units themselves shown on this page were subject to modification particularly in respect of fenestration and means of access. The New York State fire code would not permit the continuous cross wall to cross wall fenestration shown in both the street and mews prototypes. By a similar token it was not possible to project the stoop access stairs out on to the sidewalk as shown in the street prototype. The stringent economic development of the prototype in relation to mix and density requirements also involved the loss of private outside open space, in the form of balconies, to the two layers of apartments over the street duplexes.



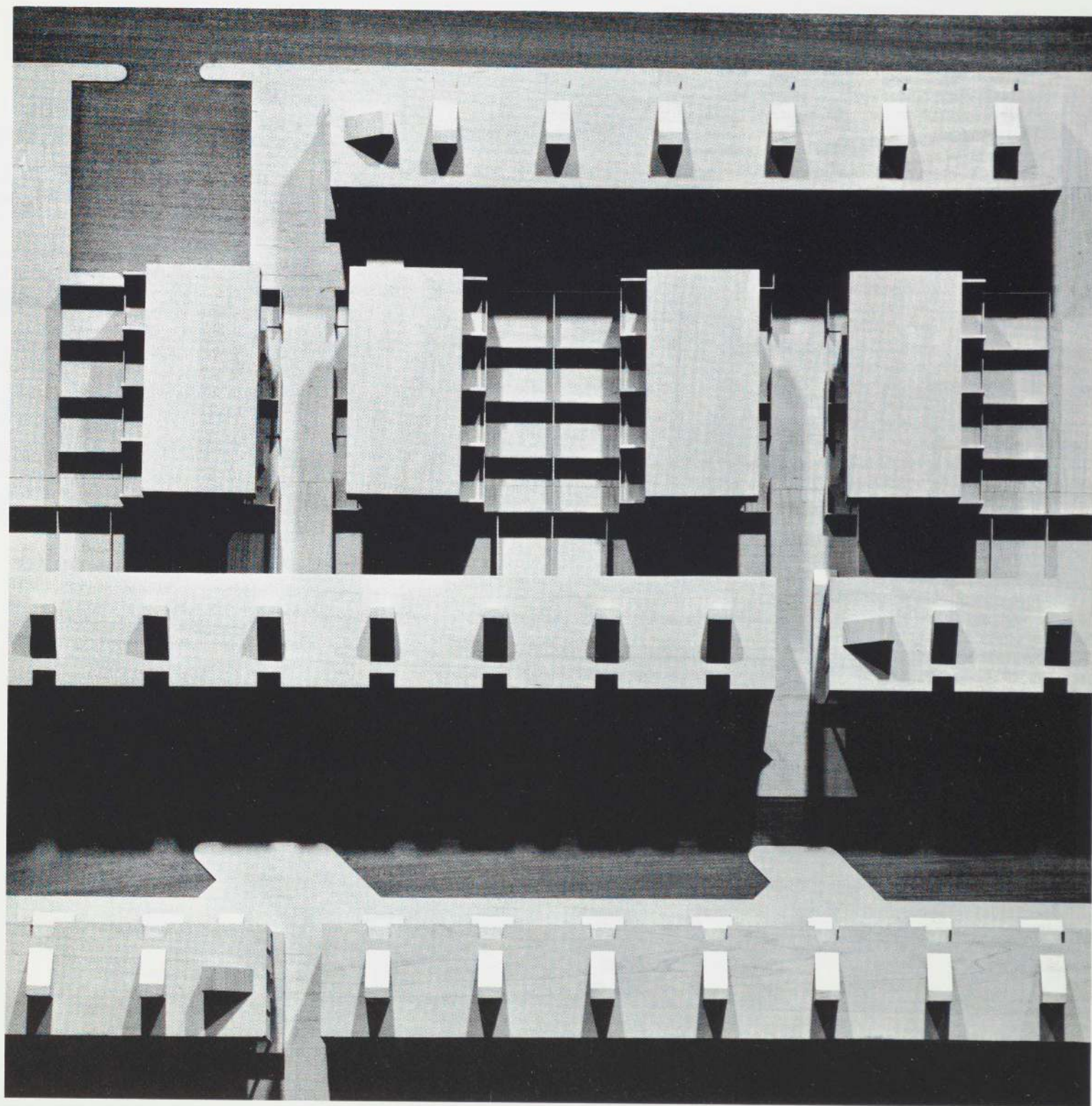
*Low Rise High Density Prototype:  
Prototypical Unit Types Above-street  
unit; below-mews unit*





*Low Rise High Density Prototype:  
Site Model*

Photo: George Cserna





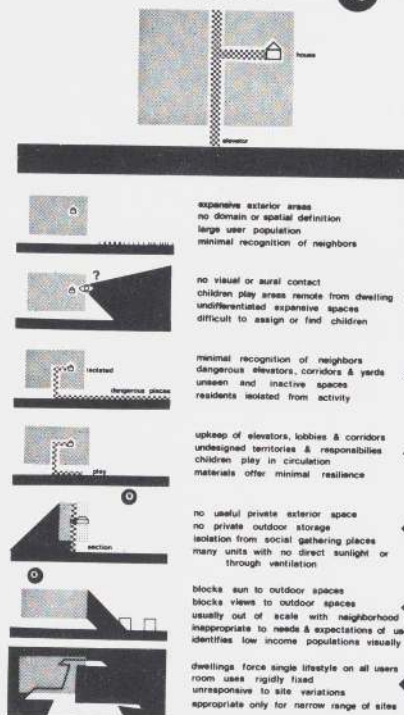
## Organizing Issues and Prototypical Elements

This prototype based on the constraints of a typical 200 foot by 800 foot New York City block was designed to establish the following conditions.

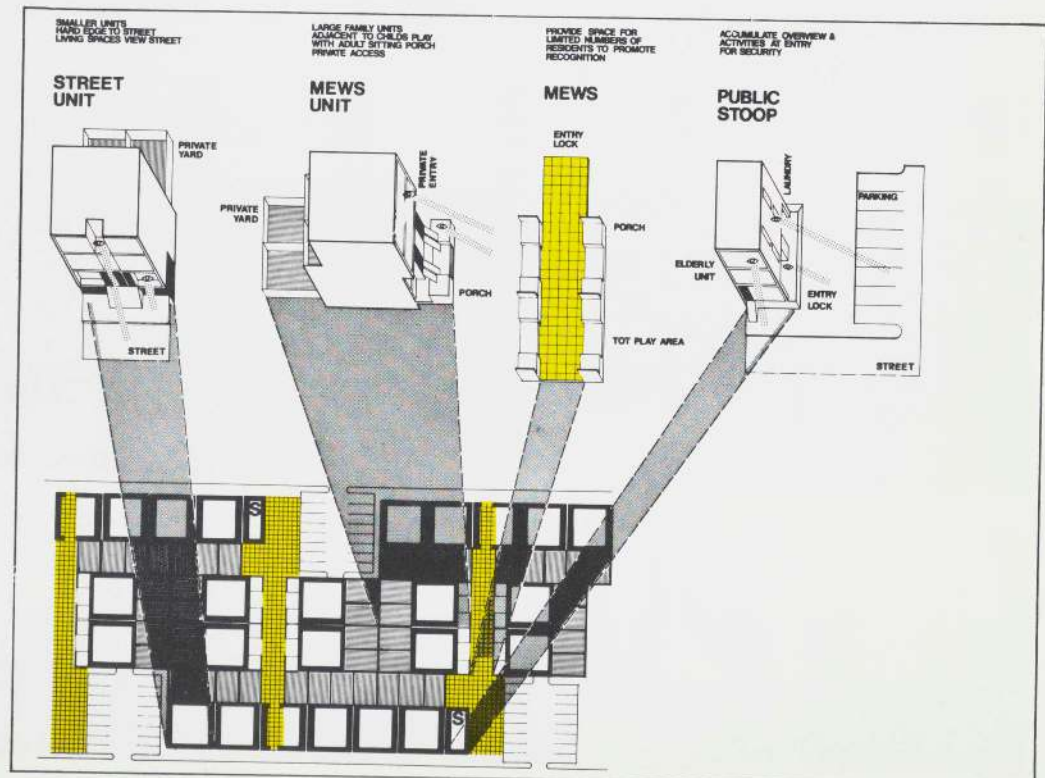
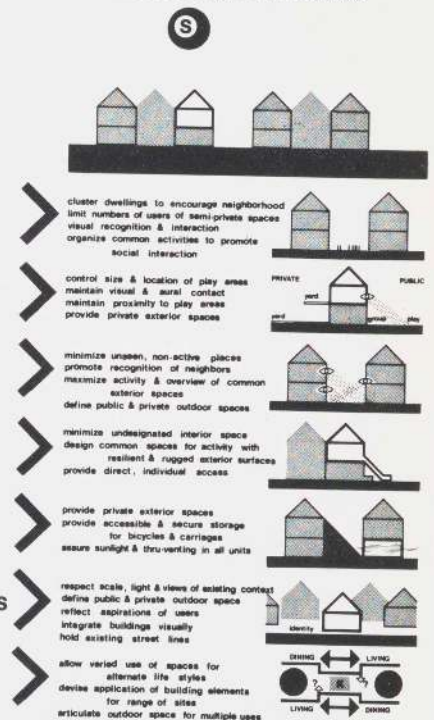
- 1 To group dwellings on the block in such a way as to both preserve the spatial profile of the street and at the same time to create a sense of neighborhood.
- 2 To arrange for as many private entrances as possible to open directly off the street and at the same time to minimize undesigned internal space.
- 3 To control the size and location of play spaces for young children and to provide for their direct surveillance from the dwelling.
- 4 To minimize unseen-non-active places and to promote easy recognition of neighbors, through limited access and the provision of 'spontaneous' surveillance over entry to the cluster.
- 5 To provide private exterior spaces (yards) for as many units as possible and to clearly define and articulate in respect of use not only public and private spaces but also semi-public spaces such as stoops.
- 6 To provide accessible and secure storage for bicycles, carriages, snow tires, etc.
- 7 To assure reasonable orientation for at least one living space plus through ventilation for all units.
- 8 To provide at least two separate living spaces for the larger family units so as to allow for the separation of different living activities and to accommodate certain variations in life style.
- 9 To limit the walk up access to two and one half floors from the street level to the highest and smallest apartments.
- 10 To limit walking distance from parking space to unit to somewhere within the neighborhood of 100 feet.

As projected the prototype was to consist of four main elements: the street unit, the mews unit, the mews itself and the public stoop in relation to the inset parking.

### STATE OF THE ART HOUSING



### LOW RISE HIGH DENSITY HOUSING





### Alternative Site Configurations in the New York City Grid

The initial prototype configuration was based on the typical mid-town avenue and street hierarchy. The proto-typical single block layout anticipated a form of mixed development in which medium to high rise structures are built on the avenues with the low rise high density development being restricted to the cross streets. In the multiple block layout a pattern of alternative street modifications was envisaged in which every other street would become a controlled street of narrower width than normal, with chevron parking ranged on either side of the central access. Given a fixed density of between 70 to 90 units per acre and excluding any high density development on the avenues, this controlled street approach would appear to be capable of yielding as much as 50% parking at grade within the grid.



### Typical Cluster

A detail of the multiple block layout, showing location of the 2 and 3 bedroom street duplexes and 3 and 4 bedroom mews duplexes. Entrances to the mews spaces are via a passage through the street block at one end and an entry past a public stoop and laundry at the other. It was intended that the stoop and laundry should provide some form of spontaneous surveillance over this entry.





**Prototypical Mews Unit**

The prototypical 39 foot square mews unit consists of two upper and two lower duplexes. All the lower duplexes comprise three bedrooms on the lower floor, half sunk into the ground, and a dining/kitchen and a living room on the upper floor. The right hand lower duplex takes a 'borrow bay' bedroom duplex. The upper duplexes comprise dining/kitchen and living on the lower level and three bedrooms on the upper level. The whole unit section is sunk 4'-0" into the ground producing a 4'-9" stoop above grade in both the mews and the street units.

*Typical Mews Unit Section**Ground Floor**First Floor**Second Floor**Third Floor*

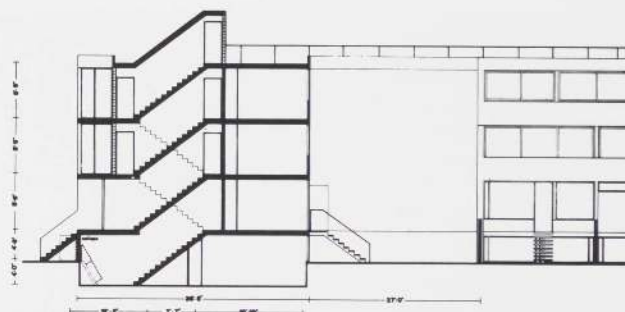


# Typical Street Unit Section

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## Prototypical Street Unit

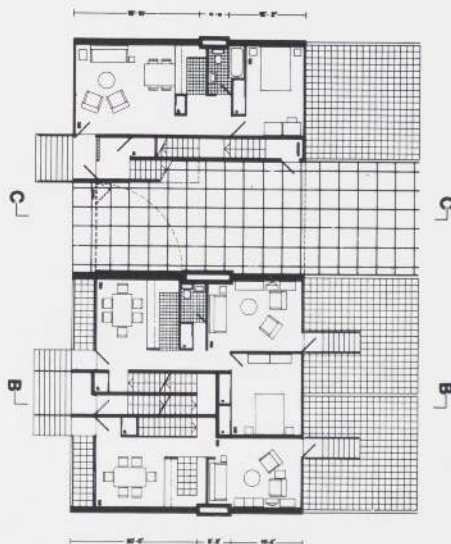
The prototypical 39 foot square street unit consists of a 2 bedroom duplex and 3 bedroom duplex on the two lower floors, each half sunk into the ground. Each of the upper floors accommodates a 1 bedroom and a 2 bedroom apartment. The 2 and 1 bedroom apartments on the upper levels are fed by a central public stair which works on a scissor principle in order to provide an alternative means of escape, via the lower level to the street. A bridge link to the mews units at roof level is provided in the prototypical version in order to give escape access to the public stairs of the street units. These escapes were later found to be unnecessary. The plans on this page also show details of the mews entry, where the adjacent unit at the elevated grade level is a 2 room apartment.



Ground Floor /  
Typical 2 / 3 Bedroom Duplexes



First Floor /  
Atypical 1 Bedroom Entry Apartment



Typical 2 / 3 Bedroom Duplexes



Second Floor /  
Typical 1 / 2 Bedroom Apartment





*Typical View from Cul-de-Sac Mews to Street Marcus Garvey Park Village Urban Renewal, New York City Rendering by Craig Hodgetts*



*Site Plan, Marcus Garvey Park Village Urban Renewal. Letters A through F show the location of the unit types shown on pages 22 and 23.*



## Application of the Prototype to the Marcus Garvey Park Village Urban Renewal Plan, Brownsville, New York

### The Institute for Architecture and Urban Studies

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Kenneth Frampton  
Peter Wolf

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*Associate Architect*  
Lehr Associates *Mechanical Engineer*  
Lev Zetlin & Associates  
*Structural Engineer*  
Finley & Madison Associates  
*Associate Structural Engineer*  
Falk Associates *Cost Consultant*  
Peter G. Rolland & Associates  
*Landscape Consultant*

### Exhibition

#### Models

George Raustiala, Jr., Dale Flick, Danny Hoffman, Niki Logis, Gustav Rosenlof, Charles Von Schmidt, Peter Szilagyi, Tsun-Kin Tam, Ivan Zaknic

#### Drawings

M. Tulga Alpay, Peter W. Charapko, Sergio Zori, Eleanor Klein

#### Aerial Photo

Peter Szilagyi

### Site Context

Before 1945 Oceanhill-Brownsville was predominantly settled by Jews. After the Second World War its ethnic character changed as the more prosperous members of the middle class began to move out of the area. This created a vacuum that was largely filled by Blacks and Puerto Ricans who were relocated in the area after having been displaced by several large urban renewal projects throughout the city. The availability of housing in Brownsville enabled the Welfare Department to flood the area with welfare recipients so that the housing stock, initially capable of providing sound yet inexpensive accommodation, soon began to be overcrowded, and in a short while its fabric began to disintegrate. In 1968, under the auspices of the Federal Model Cities Program, Brownsville became incorporated within the central Brooklyn Model Cities area. Around the same time, a Title 1 Urban Renewal project, called Marcus Garvey Park Village, was designated within the Brownsville district for redevelopment as a residential community of moderate density. A portion of this area is now to serve as a pilot site for the IAUS/UDC low rise housing prototype.

The site, comprising ten blocks roughly delineated by Rockaway Avenue, and Blake, Newport and Hopkinson streets, comprises some 12½ acres of vacant flat land. This land is subdivided into relatively large parcels. Livonia Avenue, with an elevated IRT track running down its entire length, divides the site into two sectors situated to the north and south of the track. To the East of Rockaway Avenue are located the large public housing developments of Brownsville, Tilden and Van Dyke. Their prominent physical presence is to be felt throughout the entire area, while to the west of Hopkinson (both north and south of Livonia), there are tracts of semi-detached housing with quiet tree lined streets that suggest the on-going intimate character of family living.

Sutter and Rockaway Avenues are still the dominant commercial corridors in the area, due to their proximity to the bulk of the housing and to their convenient

provision with public transit. Although both these streets have been commercially developed to meet the intense service needs of a population that is still largely pedestrian, there is nonetheless evidence of a decline in this activity which it is hoped the redevelopment of the area will reverse. Adjacent to the site, Betsy Head Memorial Park together with Betsy Head Playground, provide recreation facilities and play space for the bulk of the population in the Brownsville district.

A strong and determined base exists within the community which recognizes the area's potential and is willing to work and increase private investment to stimulate redevelopment. This strength of commitment has been expressed at community meetings and during discussions with the community representatives of the Model Cities Brownsville Area Committee; a subcommittee within the larger Central Brooklyn Model Cities Program. It is hoped that the projected low rise high density housing will prove to be a catalyst in this effort at repairing the fabric of the community, at a scale which will relate more effectively to the specialized housing needs of the entire area.

### Modification of the Prototype:

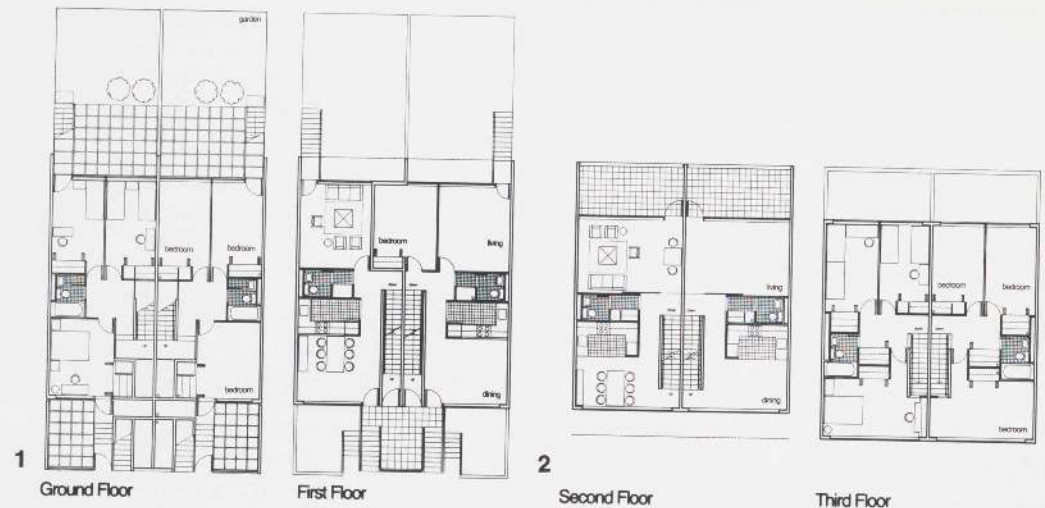
The application of the IAUS/UDC low rise housing model to the Marcus Garvey Park Village Urban Renewal Area naturally involved considerable modification to the form of the original prototype. In the first instance the division of the site into two by the IRT elevated track running along the length of Livonia Avenue created a zone in the center of the development which had to be allocated to parking, since the Renewal Plan required the housing to be separated from the evident noise source of the elevated transit, by a 100 foot set back on either side of the avenue. This meant that instead of distributing the parking requirement evenly in lots throughout the entire scheme, as in the prototype, there was no choice but to group the parking first around the spine of the IRT and then in two parking lots at the northern and southern extremities of the development.

The second major modification to the



**Mews Unit Type A Plan**

- 1 Duplex Three & Four Bedrooms
- 2 Duplex Three Bedrooms

**Mews Unit Type B Plan**

- 3 Duplex Five Bedrooms
- 4 Duplex Five Bedrooms

**Street Unit Type C Plan**

- 5 Duplex Three Bedroom
- 6 Apartments Two Bedrooms





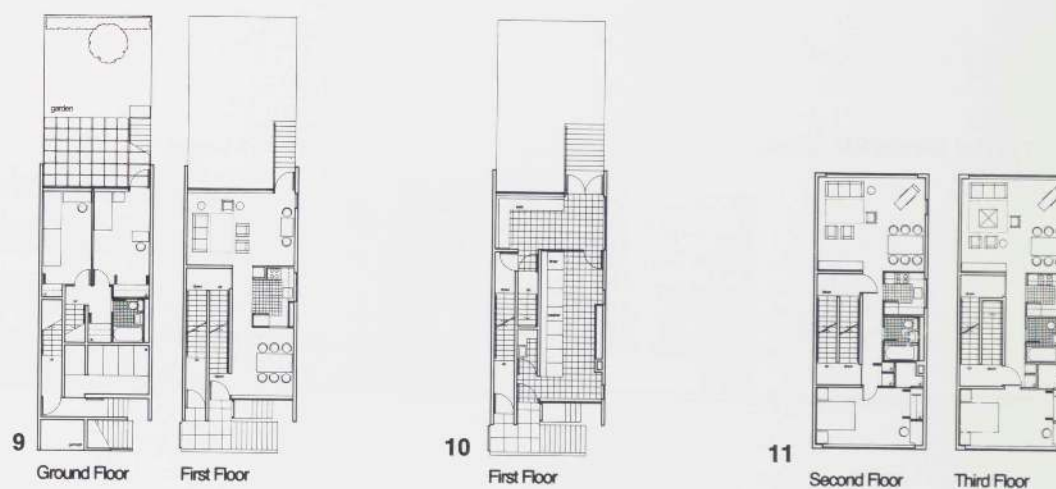
### Street Unit Type D Plan

- 7 Duplex Two Bedrooms
- 8 Apartments One Bedroom



### Street Unit Type E & Type E1 Plans

- 9 Duplex Two Bedroom
- 10 Laundry (E1)
- 11 Apartments One Bedroom

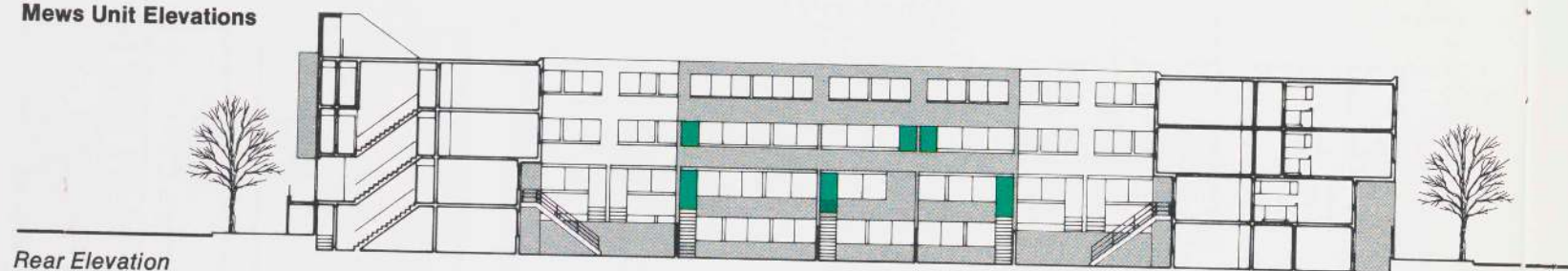
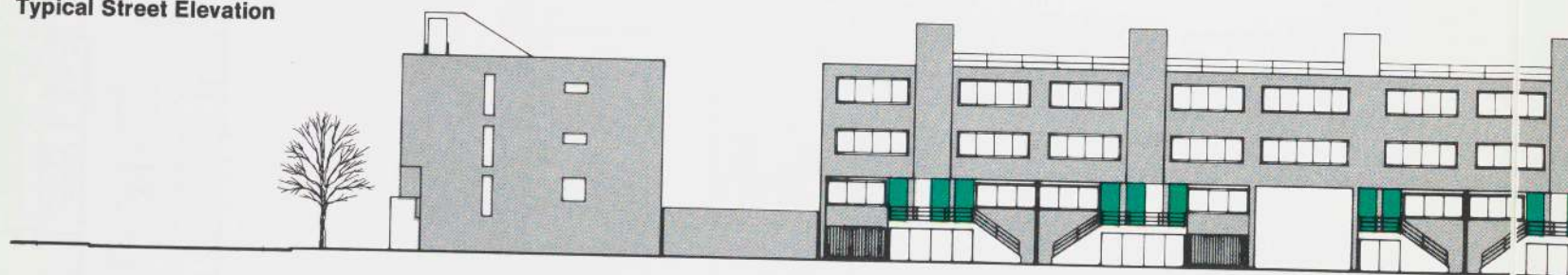
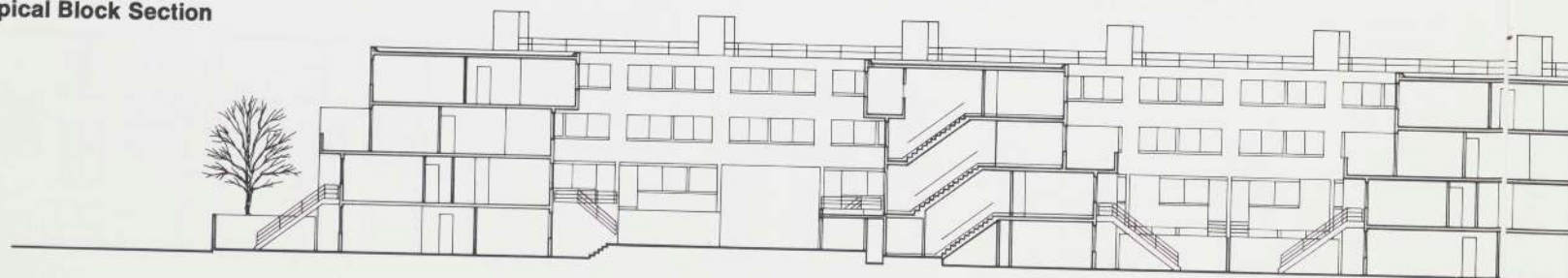


### Street Unit Type F Plan

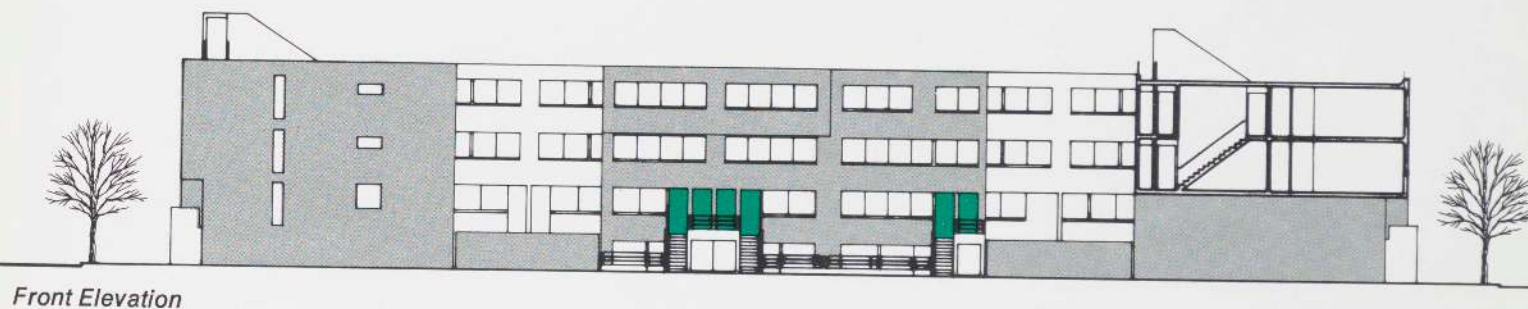
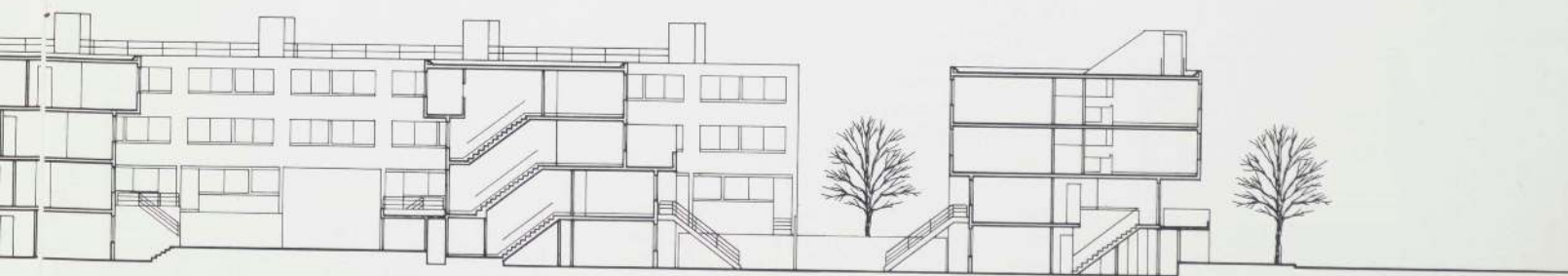
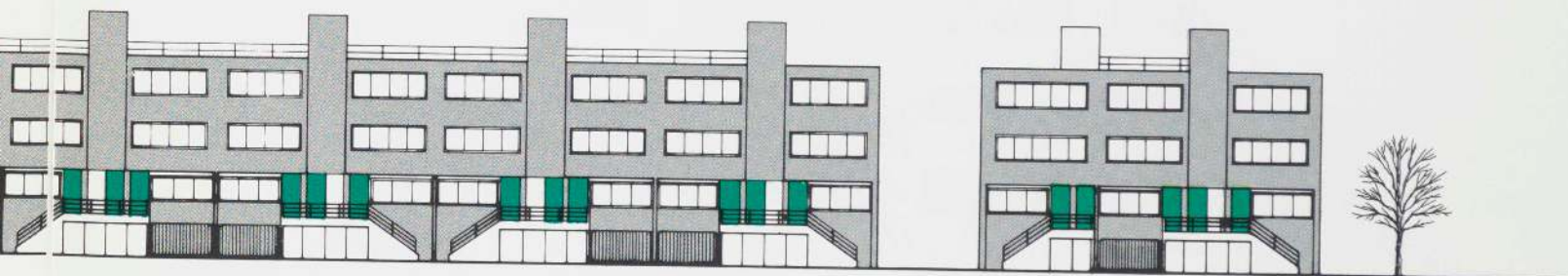
- 12 Commercial/Efficiency Units
- 13 Apartments 1 Bedroom





**Mews Unit Elevations****Typical Street Elevation****Typical Block Section**



*Front Elevation*



*Model of Typical Mews Space with  
Street Unit beyond.*

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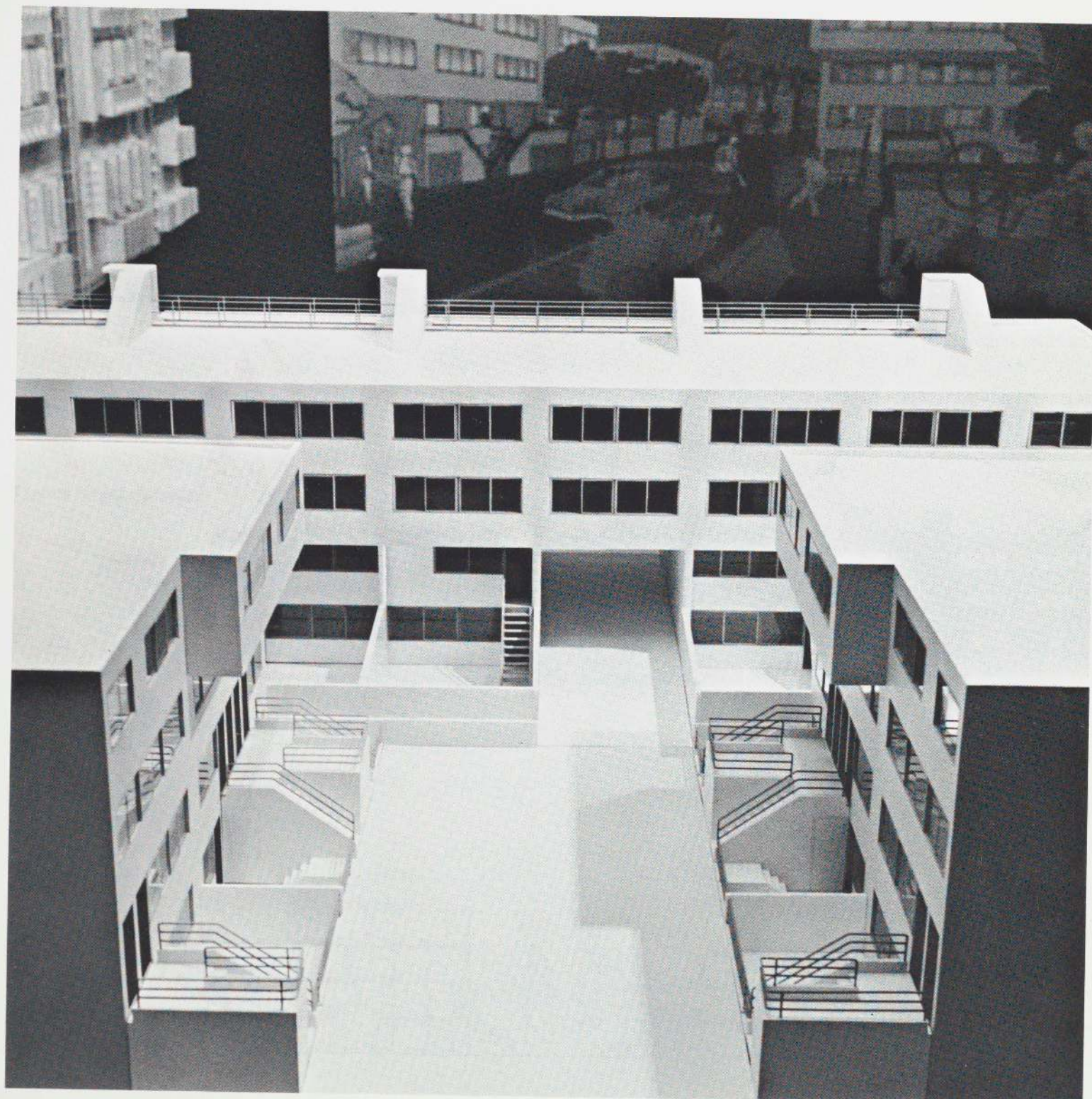


Photo: Dorothy Alexander



prototype arose out of the block allocation available for development which for about a third of the land available comprised only half blocks 100 feet deep. It was clearly uneconomical to develop these shallower sites with Street Units in front and partial Mews Units to the rear, and so a decision was made to develop most of these half blocks as cul-de-sacs, flanked by Mews Units.

As in the original prototype there are two basic types of units although the nature and the number of variations of these types have increased. Nevertheless two basic four story types still parallel those developed for the prototype. These are:

- 1 A Type C Street Unit (6 Dwellings) comprising 2/Three Bedroom duplexes at grade with two floors over; each floor accommodating 2/Two Bedroom apartments.
- 2 A Type A Mews Unit (4 Dwellings) comprising Three and Four Bedroom duplexes at grade with 2/Three Bedroom duplexes over.

The main variations to the Type C Street Unit comprise:

- 1 A Type D Street Unit (5 Dwellings) which allows for a passage entry to the mews, with typical upper floors as for a Type C and a Two Bedroom duplex at grade.
- 2 A Type E Street Unit (2 Dwellings) with a laundry at grade and 2/One Bedroom apartments over.

The main variation to the Type A mews unit consists of a Type B Mews Unit (2 Dwellings) comprising 2/Five Bedroom Duplexes, one placed above the other.

#### Planning Principles:

The principle of limited stair access and the provision of open space is the same as in the prototype, i.e. in all the *larger* family units (3 bedrooms and over) access is either half a floor up or one and a half floors up. All these units are duplexes and have direct access either to a private yard at grade or to a private terrace elevated two floors above grade. In the *smaller* family 2 Bedroom apartments, the upper limit of access is two and a half floors above grade and there is no outdoor private space. With the exception of the 2 Bedroom apartments which use a

public stair, there is private access directly from grade throughout.

In general the planning principle for the disposition of these units involves using the Street Units to form an enclosing terrace containing all the private yards and the semi-public mews spaces. These latter spaces are flanked by the Mews Units and constitute off street play areas for smaller children. Where the Mews Units are arranged in a cul-de-sac formation, opening directly off the street, they are protected from the latter by an enclosing wall.

In principle the application to the Marcus Garvey Renewal Area is basically a refinement of the prototype. Apart from the adaptation of the typical 2 Bedroom apartment floor for application over the commercial frontage on Rockaway Avenue and over the community facility on Chester, there are no other variations.

#### Community Facilities:

There is a limited amount of shopping frontage which has been expressly located on Rockaway Avenue in order to strengthen the existing commercial life. The community facility is also located in close proximity to this frontage in order to be able to reinforce the overall public nature of this part of the site. This arrangement assures that the handicapped are conveniently placed in respect to the major community services. The only other community facilities, apart from the existing churches, are two day care centers situated at the extremities of the site.

#### Open Space:

Since the site occurs in close proximity to Betsy Head Memorial Playground the provision of open space throughout the scheme falls into two main categories. The first of these are the mews spaces within the blocks which on account of their limited size will be primarily restricted to passive play. The second category constitutes the five medium sized open spaces (two of them located adjacent to the day care centers) which will be variously structured to accommodate the active play of young children and to provide sitting out space for adults.

One of these spaces, the courtyard area bounded by the new building on Rockaway, Dumont and Chester, will be reserved as a quiet area for use by the old and the handicapped.

#### Data:

The site comprises 12.5 acres and accommodates a total of 626 dwellings with 300 parking spaces. Nearly 40% of the dwellings are the larger family units comprising 180 three bedroom units, 40 four bedroom units and 28 five bedroom units. The remaining 378 units consist of 292 two bedroom units, 63 one bedroom units and 23 one room units. A certain proportion of the latter are at grade and allocated for use by the handicapped. In addition there is a community facility of 5,000 square feet and a day care center of 12,000 square feet, as well as the overall allocation of 8,000 square feet for commercial use.





*Typical View of Cluster Element Fox  
Hills, Staten Island, New York Rendering  
by Craig Hodgetts*



## Application of the Prototype to Community Board 2 Fox Hills, Staten Island, New York

**The Institute for Architecture and  
Urban Studies**

**Arthur Baker  
Peter Eisenman  
Peter Wolf**

### *Assistants*

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Margaret Deamer  
Randall Korman

### **Exhibition**

#### *Models*

Randall Korman, Timothy Wood, Latif  
Abdulmalik, Livio Dimitriu, Everett Foy,  
Le Roy Heck, Stuart Nezin, Anthony  
Pergola

#### *Drawings*

Ellen Cheng Koutsoftas, Mark  
Markiewicz

### **Planning Principles and the Organization of Open Space:**

In older urban areas the uniformity of the street grid tends to limit the richness and variety possible in development patterns. While certain aspects of a regular structure, namely those arising out of vehicular movement and utility connections, are necessary even in a non-urban context, physical design at suburban density is not as restricted by such stringent economic and technical considerations as are invariably imposed by the infrastructures of the urban core.

Since a large part of an individual's capacity to function and sustain himself in any situation depends on his spontaneous comprehension of the environment, this design is concerned with forming settlement patterns whose structure, function and meaning are readily understandable and of direct significance to the resident.

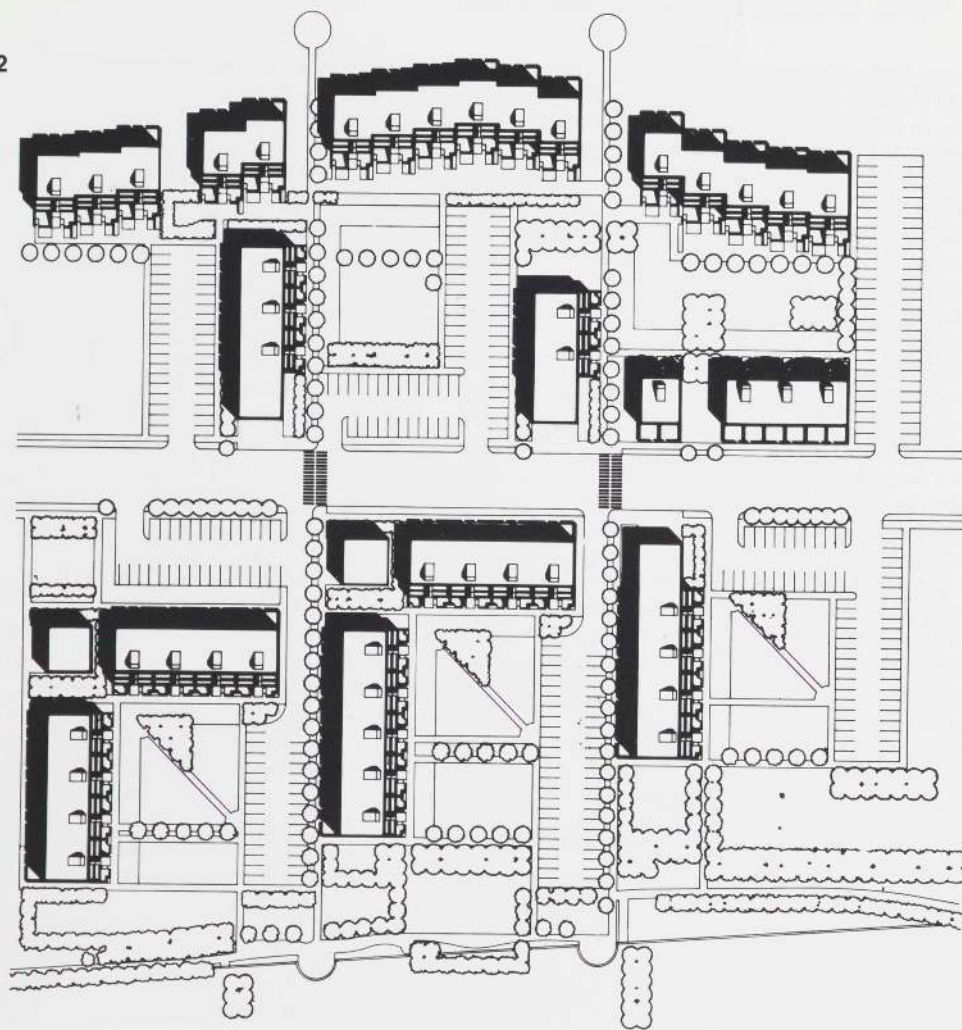
The Fox Hills prototype postulates a new configuration and structure for suburban living. The intention is to evoke individual identity through collective form; to induce, through physical structure, a sense of community that is not often found in suburban situations.

The open cluster is a concept which is intended to replace, as a primary structuring device, the street and square of the traditional city. It is not merely the shape which imparts meaning and utility to the open cluster, but rather how this shape relates to other modifications and changes in the context as a whole. A series of 'urban squares' or 'clusters' in a suburban situation can only evoke a semblance of urbanity, where clustering is used merely to engender superficial formal associations that have little to do with the essential nature of suburban order. An urban square is essentially contingent upon the existence of a street grid and in the absence of a grid it merely becomes a nostalgic allusion. Equally, the urban street depends for its articulation and inflection upon the square. Lacking the possibility of such reciprocal relationships in a suburban context, the traditional street is no longer able to provide a sense of place.

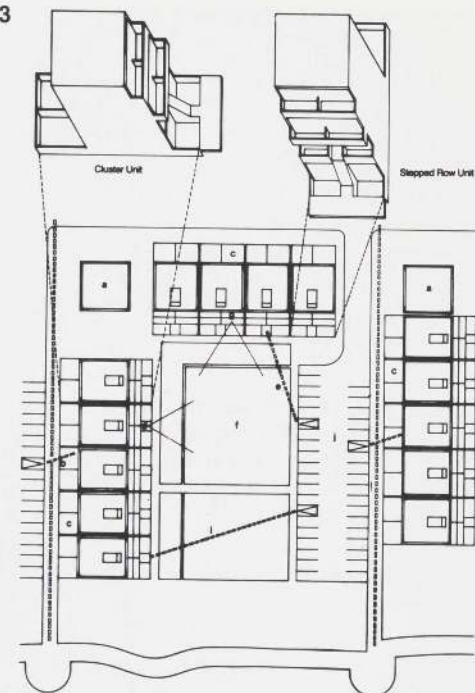
A suburban settlement structure may best and most logically be derived from the essential relation between the available basic elements—the automobile and the dwelling unit. In a suburban situation, the cluster as a primary structuring device is not merely a "public green" or surrogate square, but also functions as the street as well. The prime organizing principle of the open cluster at Fox Hills is the relationship of the dwelling unit to parking. These elements are arranged so that the individual has to traverse the central green space of the cluster. This organized movement relates not only the different scales of the "street" and the "green," but also the scale of the "street" to that of the individual unit.

The unit at Fox Hills has been modified from the form of the initial prototype. The reduced overall size of the individual units permits the integration of open air terraces. The building facades, because of these set-back private terraces, are highly articulated and textured. Despite this, they are composed out of a few components that are manipulated in different ways. In addition to providing purely visual interest, these facades distinguish front from back and signify how one cluster joins to the next. In short they provide a visual key as to how the different elements join into a complex yet understandable structure.



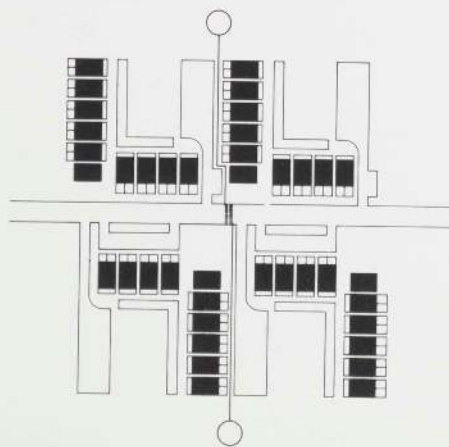


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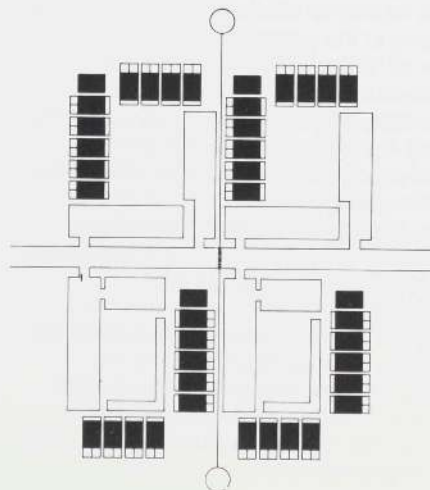


- a. Day Care and Community Facility
- b. Rear access to Ground Floor Duplex
- c. Private open space
- d. Stoop, monitoring green and Tot Lot
- e. Easy access to parking, view of car
- f. Public Green
- g. Private open space balcony
- h. Access to Pedestrian Greenway
- i. Access to dwelling, activates Public Green
- j. Parking Lot serves both Clusters

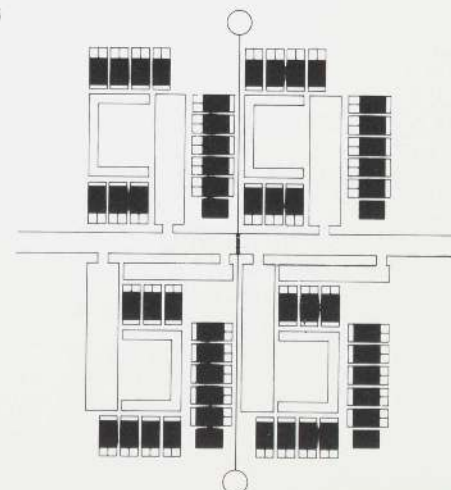
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5



6





1



Photo: Thomas Air View

## 1 Site Context

Staten Island, previously a rural area naturally isolated on the periphery of New York City, is now in the process of being rapidly transformed into yet another suburbanized borough. What was once a farm is now a subdivision, and what was once a quiet community is now overcrowded and used as a route to newer developed areas.

Fox Hills, a 61 acre site, located just off the Verrazano-Narrows Bridge entrance, is the classic example of a community caught up in these changes. Once a beautifully appointed estate and country club, Fox Hills has steadily been altered in size and character to accommodate the pressures of urbanization. Major transportation routes and the building of large apartment complexes have over-burdened the community facilities, while the threat exists that such haphazard construction will continue on the undeveloped land that still remains. The population growth engendered by such large scale development has not been met by the provision of adequate recreational, commercial and community facilities, and the consequence has been the typical physical and social inadequacies of a deteriorating urban community.

The fact that vacant land is available in Fox Hills, and the presence of an active and concerned community, create an opportunity to plan a comprehensive development and to provide the needed facilities for the surrounding neighborhood. Located in the Community Board #2 area, Fox Hills has been the object of concern for several years. Recently the Community Board invited the UDC to analyze the site and study ways to achieve a comprehensive plan for the area. While the plan has yet to be developed, UDC has been carrying out engineering studies and will continue to collaborate with the planning board.

The present overall suburban character of Staten Island suggests that the future residents of Fox Hills will want open space for recreation and leisure-time activity and will also wish to have a strong sense of identity with their neighborhood and community. In addition, they will desire to

be home owners and by and large will have to rely on the automobile as a means of transportation. The design of a suburban variation of the IAUS/UDC low rise housing prototype is an attempt to satisfy these needs. Such units may be just as readily sold as cooperatives, as they may be purchased or rented. This version of the prototype attempts to satisfy the requirements of suburban living while offering amenities not usually associated either with standard suburban development or with the apartment complexes presently being erected on Staten Island.

## 2 Site Plan

A limit of 280 low rise units was set as an initial increment to be studied on a 7.5 acre site. In order to demonstrate the application of the three different cluster types to the site, the number of units and the size of the site was increased slightly.

In the plan as shown there are 24 simplex elements with eight units per element totaling 192 units and 22 duplex elements with six units per element totaling 132 units.

The mix of units works out to 92 one bedroom units (28%); 188 two bedroom units (58%); 44 three bedroom units (14%) which compares almost exactly to the desired 25%-60%-15% mix.

The number of parking spaces provided is 331 which is slightly more than the desired ratio of 1:1. No unit is more than 200 feet from its parking space. The net area including units, green space and parking is 9.8 acres, which given the limitation on the number of units, works out to just over thirty-one units per acre. However, within the area of the site, necessary for the demonstration of all three clustering schemes, it is possible to add both units and parking spaces so as to increase the net density to about 42 units per acre.

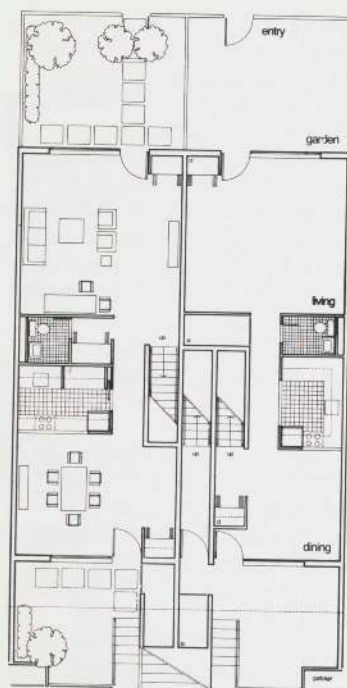
This figure is reduced to a gross density of 38 units per acre when the gross acreage including the public right of way and the pedestrian greenways are added to the net acreage.

The site plan demonstrates one possible

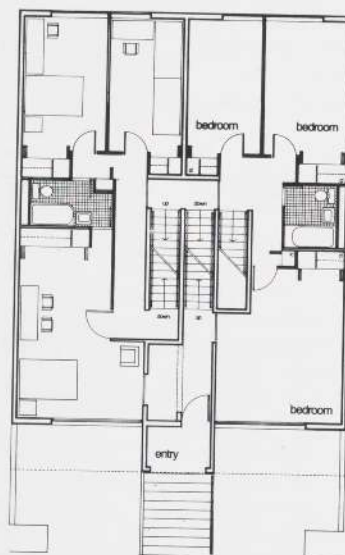
- 1 Site Context
- 2 Site Plan
- 3 Criteria for Development of
- 4 Cluster Type A
- 5 Cluster Type B
- 6 Cluster Type C



Scale 0 5 10 feet



*Ground Floor*



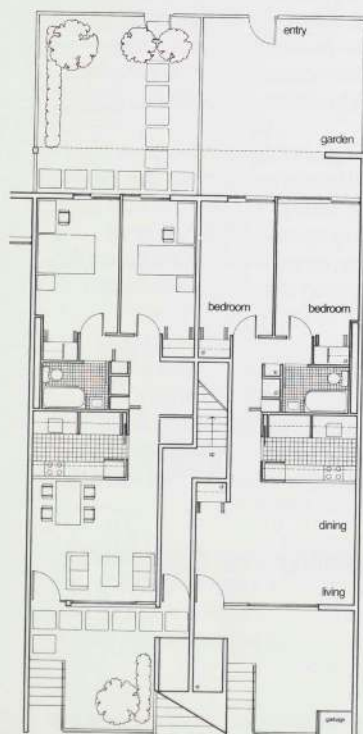
*First Floor*



*Second Floor*



*Third Floor*





## Cluster Unit Plans

Duplex 3 Bedrooms  
Apartments: 2 & 1 Bedroom

## Stepped Row Unit Plans

Apartments: 2 & 1 Bedroom

organization using all three cluster types to provide for both variety and diversity, and at the same time rational and economic land use. The site plan as shown attempts to provide both a sense of individual identification and community association through the organization and relationship of open space.

### 3 Criteria for Development of Cluster Type A

Cluster Type A was developed to satisfy criteria in addition to those already elaborated for the prototype, which distinguish a suburban as opposed to an urban site:

First, the possibility for each unit to have some private open space. Second, the possibility for more public open space in general. Third, the possibility of easy access to parking and a parking space for each unit.

These criteria led to a program which provides each unit with a private garden or a balcony. The private gardens are located at the rear. As a result the principal entrance to each unit is from a front stoop located on the public green.

Parking is placed as a part of the public open space so that the majority of people must walk across the green to reach their cars. This provides continuous monitoring for the green and a level of activity which prevents the green from being merely an unused formal space.

All balconies overlook the green, providing good vistas and further monitoring. A children's play space is provided along the edge of the green adjacent to the front stoops. This area is landscaped so as to separate it from the green itself. The play area will have movable play equipment.

Cluster Type A is essentially an L-shape of units opposite parking areas. The public space in cluster Type A is formed by placing these L-shapes in a parallel sequence which form a U-shape of buildings enclosing a public green. The green in cluster Type A opens out to a pedestrian greenway which provides a connection between adjacent clusters and at the same time provides access to the community facilities.

### 4 Cluster Type A

Diagram four shows one possible grouping for Type A clusters. In general such a repeated use of Type A clusters provides for an economic land use at a median density. On the other hand, repetition of this cluster type beyond four clusters, fails to develop the variety and differentiation possible, within a suburban context, as between one grouping and the next.

### 5 Cluster Type B

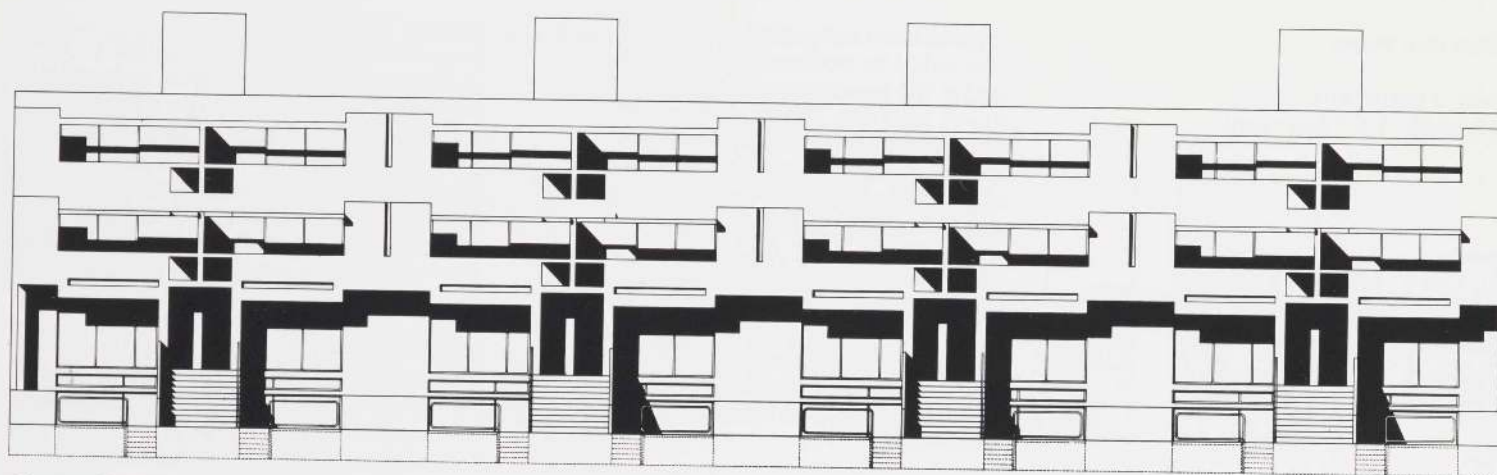
Cluster Type B differs from cluster Type A in that the public green does not open on to the pedestrian greenway, but rather turns inward from it. Parking is arranged in L's. This places continuous parking on the street, making it dull and uninviting. Again when this type of cluster is repeated the context lacks differentiation.

### 6 Cluster Type C

Cluster Type C combines aspects of Types A and B. Its units close both the street and greenway views, producing U-shaped enclosures around the public green. Its major advantage is economic in that it provides for maximum density and land use. It suffers from the same disadvantages as Type A and B when repeated.

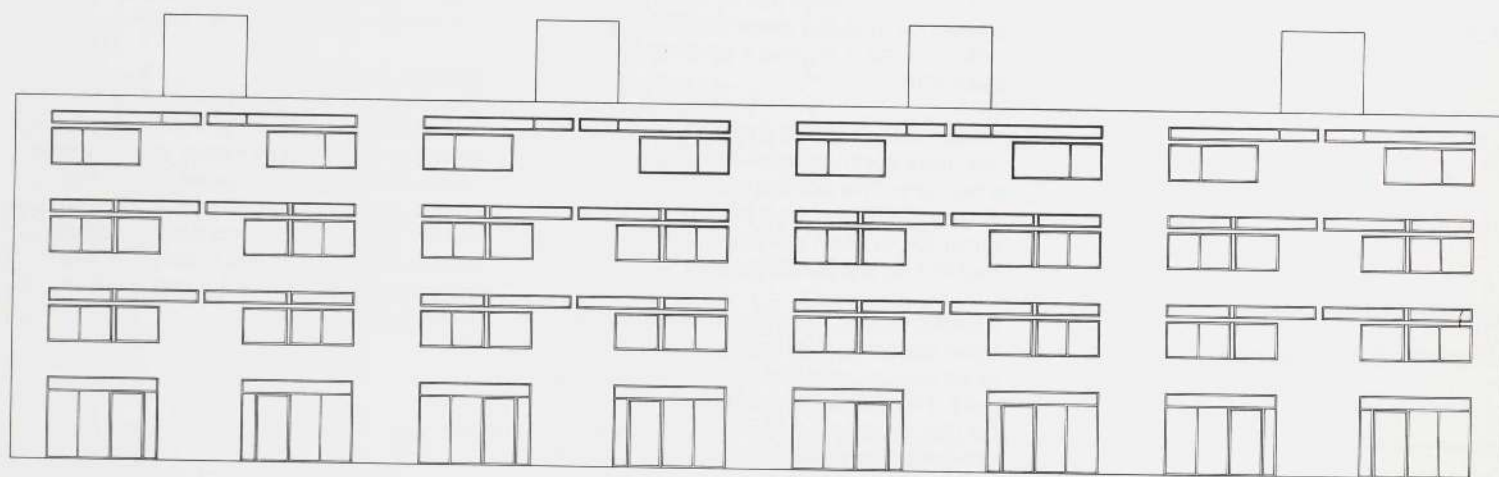


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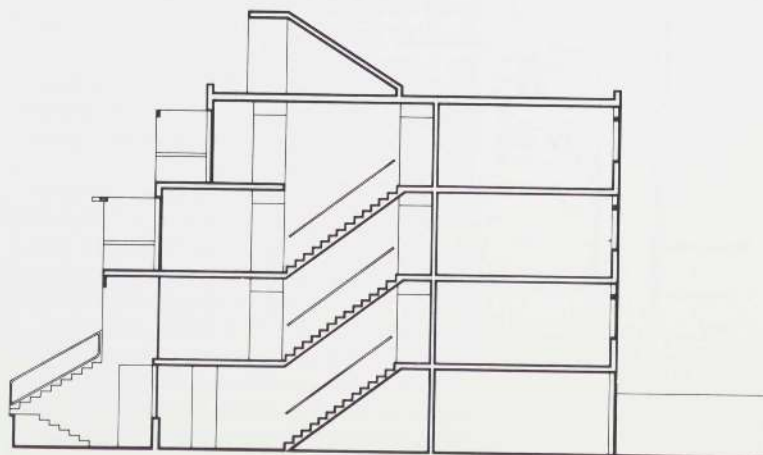


Cluster Unit Elevations

Front Elevation

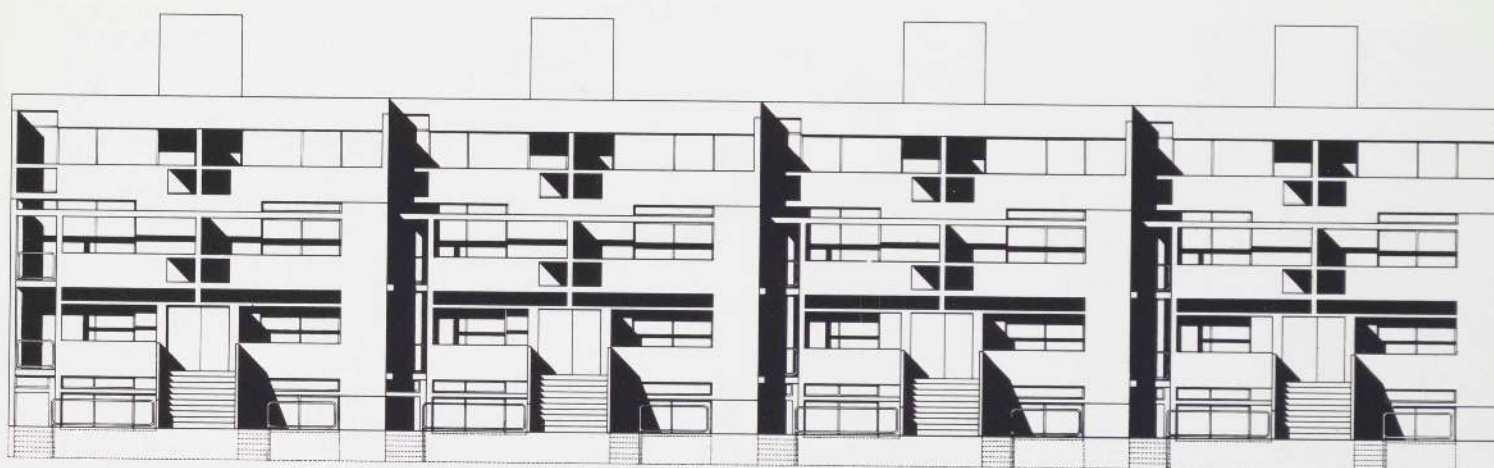


Front Elevation



Cluster Unit Section



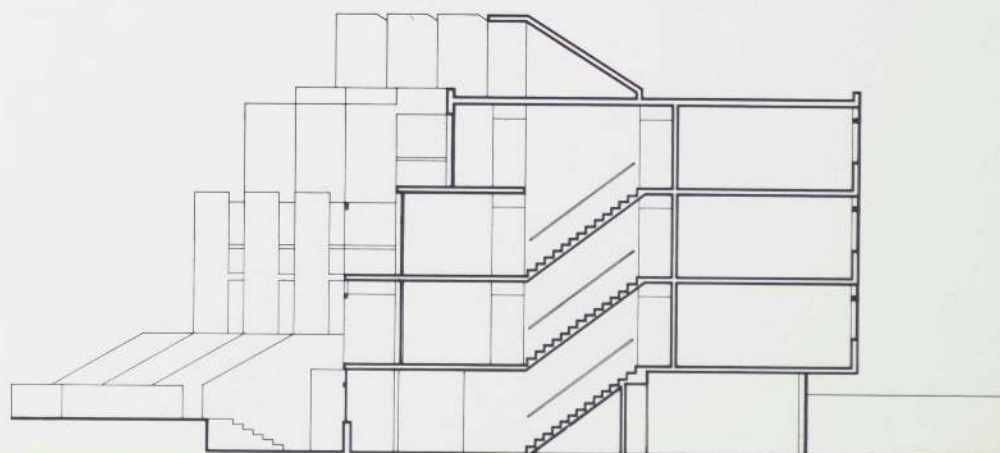


Stepped Row Unit Elevations

Rear Elevation

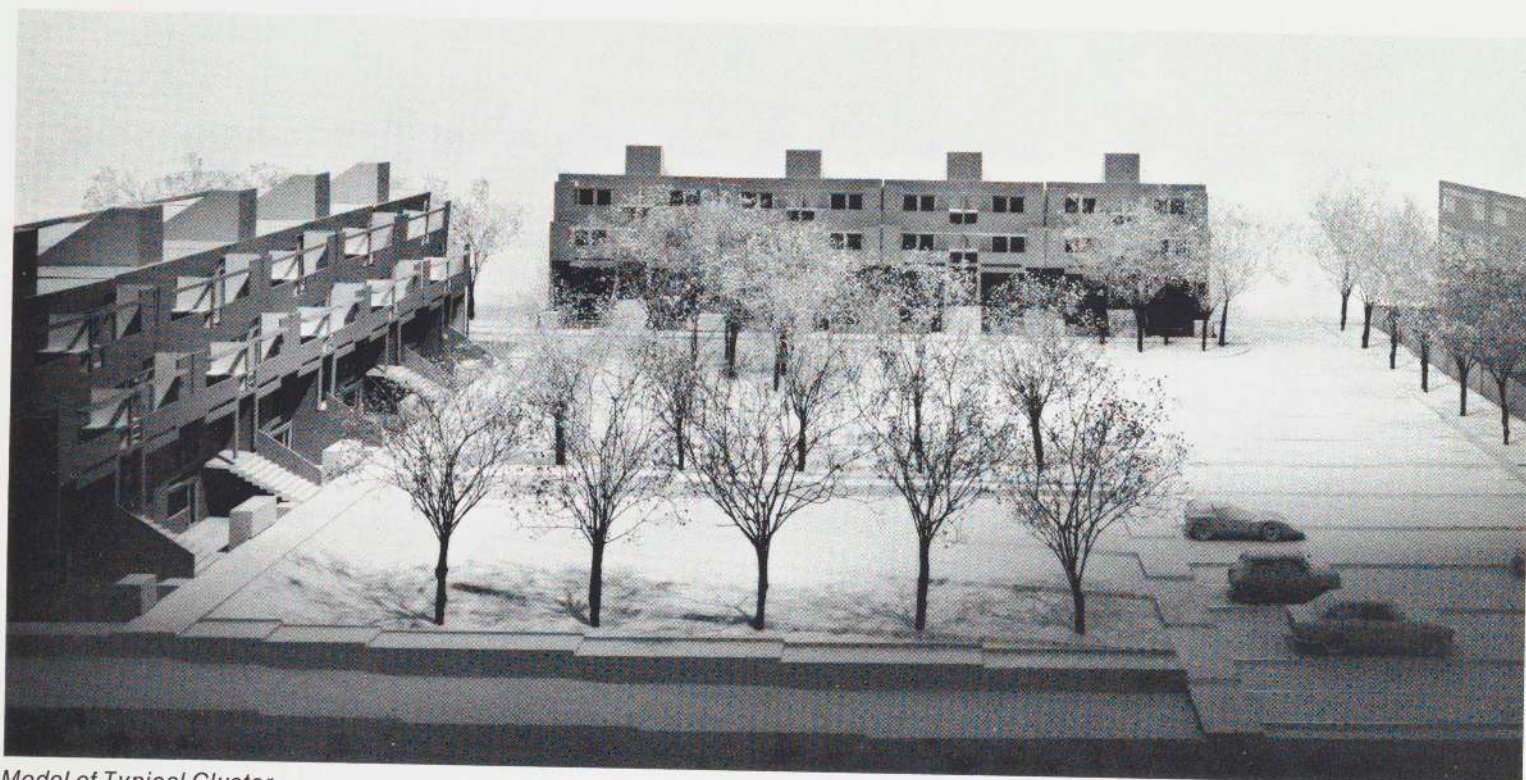


Rear Elevation



Stepped Unit Section





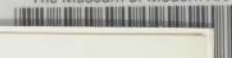
*Model of Typical Cluster*

Photo: George Cserna



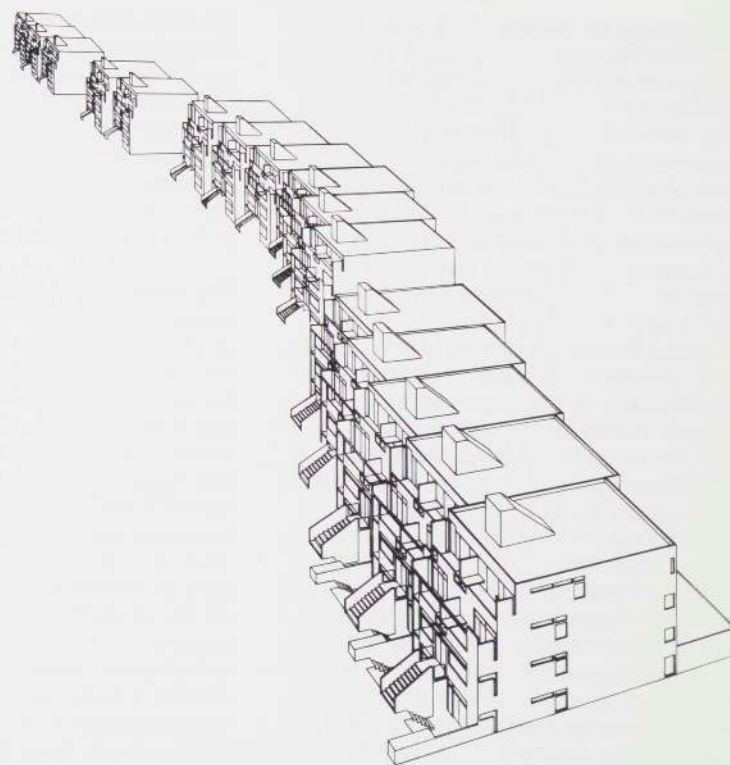
*Model of Stepped Row Units*





*Perspective of Stepped Row Units  
Drawing by Ellen Cheng Koutsoftas.*

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*Close-up of Units showing  
system of stoop access.*



Photo: Richard Frank



## The Institute for Architecture and Urban Studies

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The Institute for Architecture and Urban Studies came into being in 1967 as a result of an exhibition held in The Museum of Modern Art under the title *The New City: Architecture and Urban Renewal*. It was established as an independent non-profit organization which would attempt to determine a more specific role for professional architects and planners in the shaping of the public environment. From the outset it chose to emphasize the part to be played by physical form in determining the nature and quality of our life style. It wished to concern itself not with the individual free standing building nor with the city but rather with that crucially important intermediate scale, which consists of an aggregate of buildings; namely those spatial complexes, of limited extent, that inevitably exert a critical impact on the quality of our daily lives. In this respect the Institute was just as much opposed to the utopian *tabula rasa* tradition of modern architecture, as it was to the systems approach of urban planning. Furthermore, the Institute saw its public role as one in which its energies should not be directed toward advocating the interests of a particular group. In this it saw its primary task as that of helping to reconcile the often opposed interests of many different constituencies, from the large public agency to the individual client.

The projects undertaken by the Institute since its inception directly exemplify the nature of its concerns. In particular, its initial studies for the New York City Planning Commission: first, a study of the Kingsbridge area in the Bronx, made in order to determine the possibility for design and intervention at the intermediate scale, while respecting the existing context; second, a study into street typology involving the development of alternative physical proposals for two different sections of Manhattan, undertaken to demonstrate the impact of zoning on street design. Around the same time, the Institute was commissioned by a consortium of New York State agencies to carry out the comparative analysis of new towns, both here and in Europe, examining them from the point of view of their capacity to respond to structural change. Since then, the Institute has worked for

the Department of Housing and Urban Development on a study of street form as an element in an overall strategy for the piecemeal improvement of the urban environment. This study, which attempts to define the nature of the interface between public and private space, will form the substance of a book to be published in the fall of 1973.

The Institute's conviction as to the relevance of aggregate built form to the quality of everyday life, led it to initiate in 1971 this present study into low rise housing, and eventually to its collaboration with the Urban Development Corporation in the design of prototypical low rise housing. Without this support from a public agency, the Institute would not have been able to bring these particular studies to the point of their realization, in both an urban and a suburban context. As the implementation of these projects commences, it is the Institute's intention to carry this research and design procedure a stage further, in order to monitor the performance of these prototypes as built; not only from the point of view of their meeting actual user needs, but also with respect to their inherent capacity, to define a hierarchy of public, semi-public and private space. It is hoped that the initiation of such 'feed-back' research will lead not only to the evolution of a more critical attitude towards the spatial and social effect of built form, but also to the refinement of public housing policies to meet more specific needs.

The current state of regional urbanization and the constant escalation in urban growth, causes the Institute to see the maintenance of a liveable and appropriate urban environment as a task of the greatest urgency. Given the tendency of our present mode of production to erode and diffuse not only our existing urban centers but also their surrounding reserves of rural and open land, we feel that it is of the utmost importance to create and maintain compact forms of settlement, irrespective of their location. In our opinion, this task calls for the creation of new institutions which are, at one and the same time, both innovative and conservative; innovative in the sense of being able to meet the demands of an urban situation which is

ever subject to the pressures of industrialization; conservative in the sense that it becomes increasingly necessary to acknowledge the continuing validity of certain traditional patterns of settlement such as the contained street. Without a doubt, such patterns still constitute a large part of the public environment and, as such, they offer an ever present opportunity for the social and formal reaffirmation of urban space, as a realm of significant human activity.

Arthur Baker  
Peter Eisenman  
Kenneth Frampton  
Peter Wolf





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