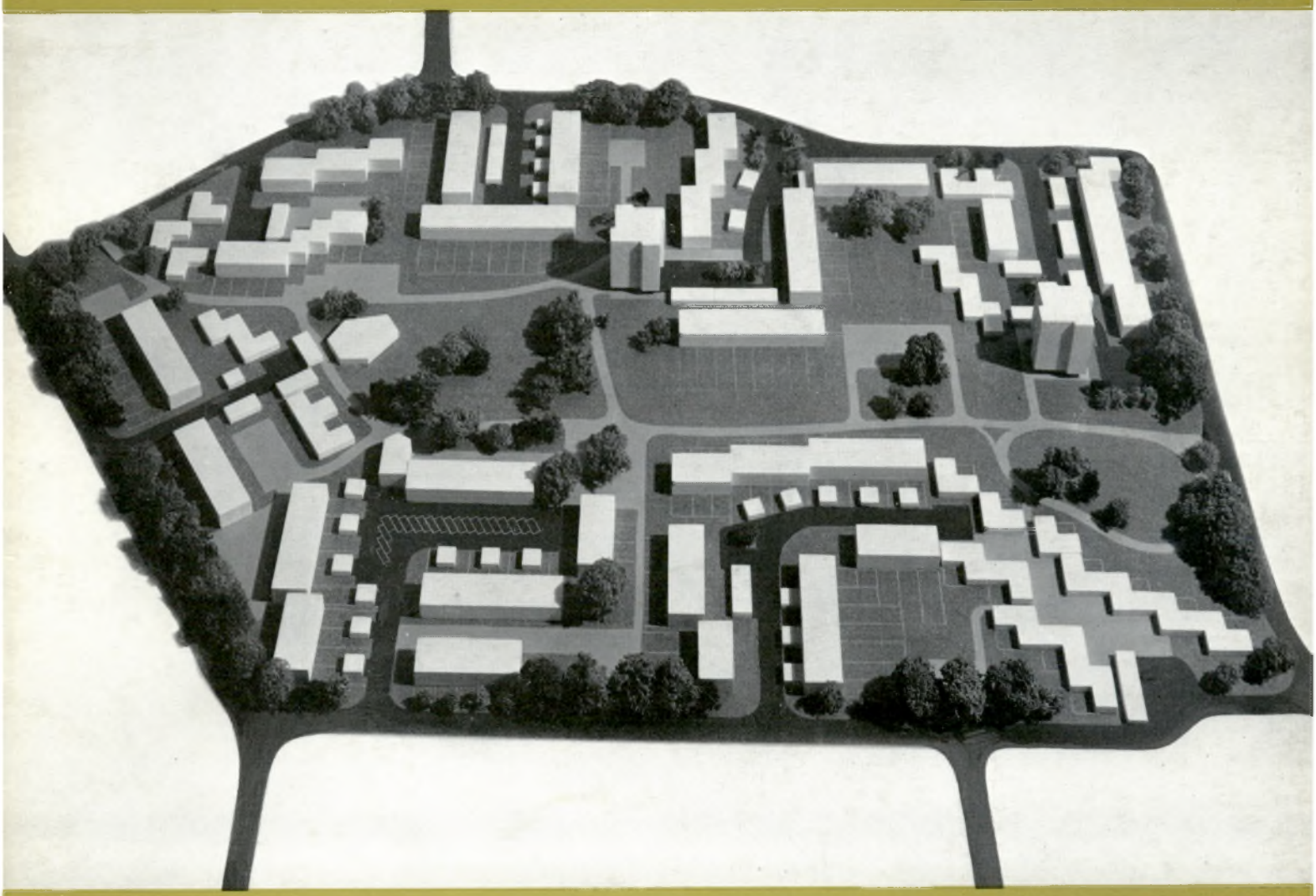
DESIGN BULLETIN

10

MINISTRY OF HOUSING AND LOCAL GOVERNMENT

Cars in housing/1

some medium density layouts



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MINISTRY OF HOUSING AND LOCAL GOVERNMENT

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Foreword by the Minister of Housing and Local Government

I hope that anyone who is concerned with the planning and design of housing layouts, whether local authority or private enterprise, will make a point of studying this bulletin.

Now that one household in three has a car, and the proportion of car-owning families is certain to go on increasing, the traditional vehicle road with frontage access and pavements can no longer be regarded as safe or quiet or convenient enough. Housing layouts have to be designed to strike a just balance between the needs of pedestrians and those of cars. This can be done by planning them on the principle which has become associated with the name Radburn, after an early model in New Jersey, U.S.A.

I know that some local authorities have fought shy of housing layouts with separate systems for walking and wheeled traffic because earlier ones designed in this country were not wholly satisfactory. The main fault was a failure to pay enough attention to the problems of house design and grouping which traffic separation poses, and it is with these questions that this bulletin is principally concerned.

I know also that many architects and developers are anxious for some guidance on these matters. I hope they will find what they need here. I hope too that those who have been reluctant to entertain the 'Radburn idea' will discover from studying the examples in this bulletin that greater safety in residential areas need not mean any loss of character, or of variety in design and arrangement of the houses.

1 Introduction

Any housing scheme today has to provide for a steadily growing number of cars. The Buchanan Report[1] estimated (paragraph 45) that Great Britain's motor vehicle population could easily double within 10 years and nearly treble within 20.

This is not a trend that can be turned back or disregarded. We have to accept the car and plan for its increase. What we can do in housing schemes is minimise its visual intrusion; and, by separating it as completely as possible from pedestrians, keep it from making life dangerous and unpleasant. Only then can motorists and pedestrians, who are also sometimes the same people, enjoy the best of both worlds.

The main problem facing the designer of housing estates was succinctly posed in this passage from *Homes for today and tomorrow:*[2]

> '200. The overriding concern in designing with the car in mind must be to design for the pedestrian to stay alive. Since in a car-owning community a high proportion of the pedestrians and cyclists will be children, this will demand the segregation of pedestrian footpaths and cycleways from roads carrying motor vehicles, and preferably the organisation of these footpaths into a system leading from the quiet side of the houses to schools and shops and play spaces, so that children can go about their affairs with reasonable safety. Safety considerations also suggest the importance of arranging for cul-de-sac vehicular approach to residential development, so that vehicles adopt low speeds in the vicinity of homes and so that through traffic does not approach them at all.'

Safety is not, of course, the only consideration, even though it is the most important. Amenity, in its widest sense of pleasant living, is one; so is convenience, both for the driver with a car to garage or park, and the man, woman or child with an errand on foot; so is quiet; so is ease of getting to school or town or shops; so are sufficient open space and play space. The layout that is fair both to pedestrians and drivers will balance all these in the right proportions.

The purpose of this bulletin is to show how these 'user requirements' can be met by applying traffic separation[3] principles on the Radburn model, and to describe the special problems of house design and house grouping that they involve. It includes also some illustration of the way housing layouts that separate pedestrians and vehicles are developing in this country.

The bulletin is concerned with principles: it does not try to appraise particular schemes. It is hoped to do this later when more information is available on user reaction and capital costs.

The bulletin concentrates on medium density schemes of roughly 14 to 23 houses to the acre and providing for a car/dwelling ratio of 1, plus some allowance for casual and visitors' parking.

[1] *Traffic in towns:* A study of the long-term problems of traffic in urban areas (HMSO 1963; 50s.)
[2] Report of the Parker Morris Committee (HMSO 1961; 4s.)
[3] For the sake of brevity, the term 'traffic separation' is used throughout this bulletin, but applying only to residential areas, and not to the central areas of towns.

2 Background

As long ago as the late twenties over 21 million motor vehicles were registered in the United States, and the car had already become a disruptive factor in urban life. The grid layout of the typical American town, with its frequent intersections, added to the danger from traffic.

In 1928 a new system of planning, derived from the English garden city, began to be developed at Radburn in New Jersey. One of its aims was to secure safety from traffic without hampering the freedom of the car.

Roads were to be planned for vehicles only and not, as formerly, for general use. There was to be a complete and entirely separate pedestrian circulation system. A central area of parkland for recreation was an important feature. And, most revolutionary of all, the houses, which traditionally had always faced on to the roads with their main windows and sitting-out porches, were to face instead on to the pedestrian ways, and all access for servicing was to be on the vehicle side.

The intention was to build three residential areas, each of about $\frac{1}{2}$-mile radius, and to include a school and shopping centre, with generous car parking space attached.

These areas were to be connected with each other by safe foot bridges or underpasses, and each was to have a final population of 25,000. But the project was started at a bad time. The first 400 families moved in in 1929, almost on the eve of the Wall Street collapse. In the end only two neighbourhoods were completed before the venture became a financial casualty of the depression.

Even so, enough had been done to demonstrate the great possibilities of the 'Radburn idea'.

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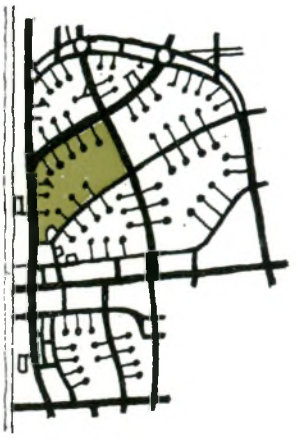

1 The original traffic separation layout at Radburn, New Jersey. (left) One of the completed neighbourhoods, (right) the block plan.

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3 Traffic separation: basic principles

There are three essentials in any housing scheme which embodies the Radburn idea:

(a) roads for motor vehicles only;
(b) a separate footpath system;
(c) houses specially designed and grouped with separate access for pedestrians and cars.

These are the three basic principles of traffic separation. None of them is completely new or revolutionary in these days, but, used together, they can help to create a virtually new type of environment, and there is plenty of scope for variety and flexibility in combining them.

In a layout on the Radburn model or any development of it the neighbourhood is made up of several groups of houses, each group serviced from one access road for vehicles, which in turn is reached from a distributor road. The self-contained path system, independent of the vehicle roads, gives easy access on foot to every house and links houses with playgrounds, shops, schools and community buildings.

It has to be faced however that *absolute* separation of cars and pedestrians is impracticable, if only because bursting to get out of every vehicle is a would-be pedestrian; and because, except at a prohibitive cost in convenience and urbanity, it is impossible to keep children away from *every* spot where cars are likely to be. The Buchanan Report (paragraph 134) came to the conclusion, at any rate as far as shopping streets are concerned, that complete separation is not worth pursuing. And the same holds good for residential areas. Cars can be firmly canalised: but pedestrians have to be coaxed.

There are a number of successful developments in this country laid out on these principles. Examples are to be found at Basildon, Coventry, Cumbernauld, Northampton, Stevenage and Wrexham, among other places.

In some layouts, however, a number of things have not gone according to plan. There has been confusion over which is the main door, with visitors walking through the garden and entering through the kitchen or store, whereas brides and coffins go out past the dustbins. Alternatively, visitors may have to walk round to the front in the rain, having left their car on the other side. Children prefer playing on the hard surface of the cul-de-sac in wet weather rather than in the gardens or on the greens, and in any case they will play anywhere they can find the room, and not only where they are meant to. Postmen have got lost or had difficulty in finding the right house. It has proved difficult sometimes to ensure enough privacy. Some culs-de-sac with their garages and clothes lines are unsightly. In some layouts the turning circle at the head of the cul-de-sac is too small, making cars hard to manoeuvre.

In other words, like any new departure in design and planning, separating traffic from pedestrians throws up certain problems not all of which can be easily foreseen.

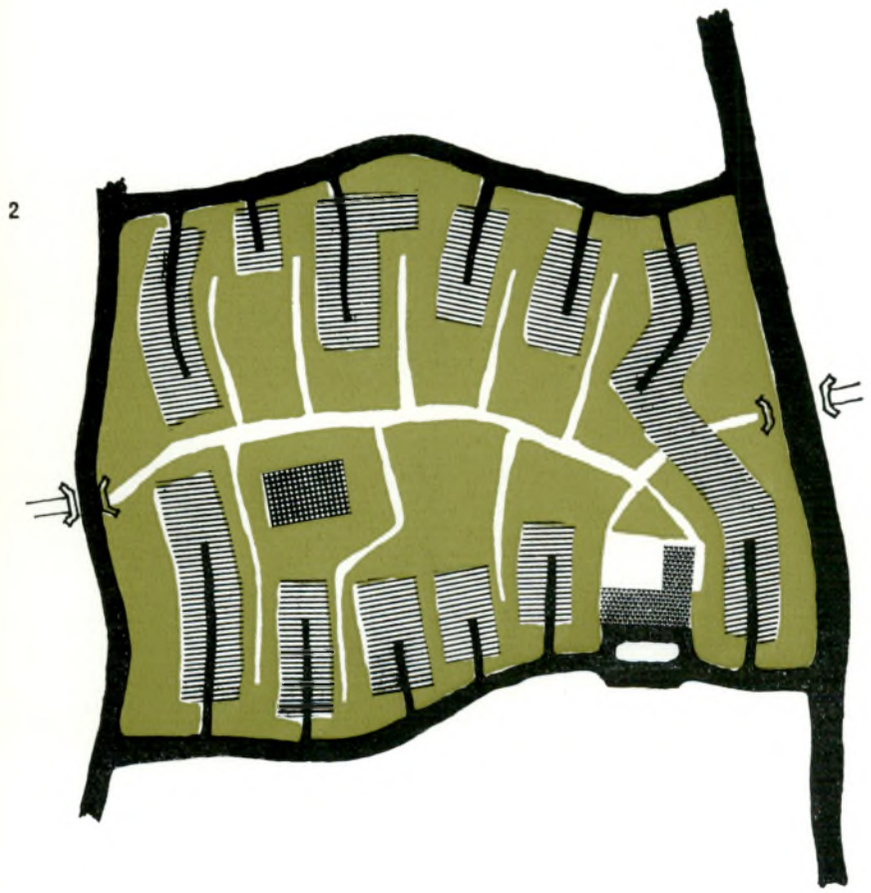
The bulletin deals in turn with the particular problems raised by the three basic principles described above, and illustrates ways in which some of them have been dealt with.

4 Roads for motor vehicles only

The essence of the Radburn idea is that, even if it is impossible to keep motor traffic and pedestrians completely apart, the two move on separate systems. The footpath system should make it unnecessary or unattractive for pedestrians to walk on or across roads. The road system should make it easy for cars to approach and service the living areas.

Any residential area laid out for traffic separation can take one of two basic forms, according to the demands of the site:

(*a*) a distributor road encloses or partly encloses, and defines, the residential area. Access roads are in the form of spurs which penetrate the site. Open space and the pedestrian network are then at the core. Most sites favour this form of layout. (Figure **2.**)



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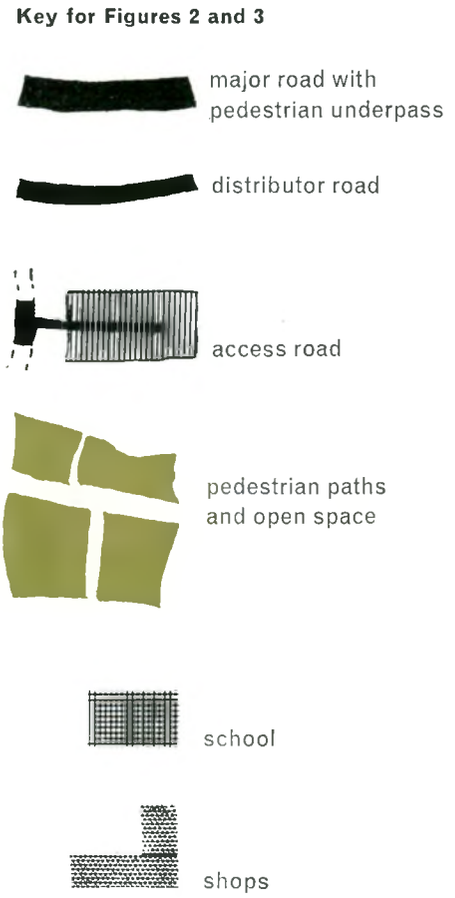

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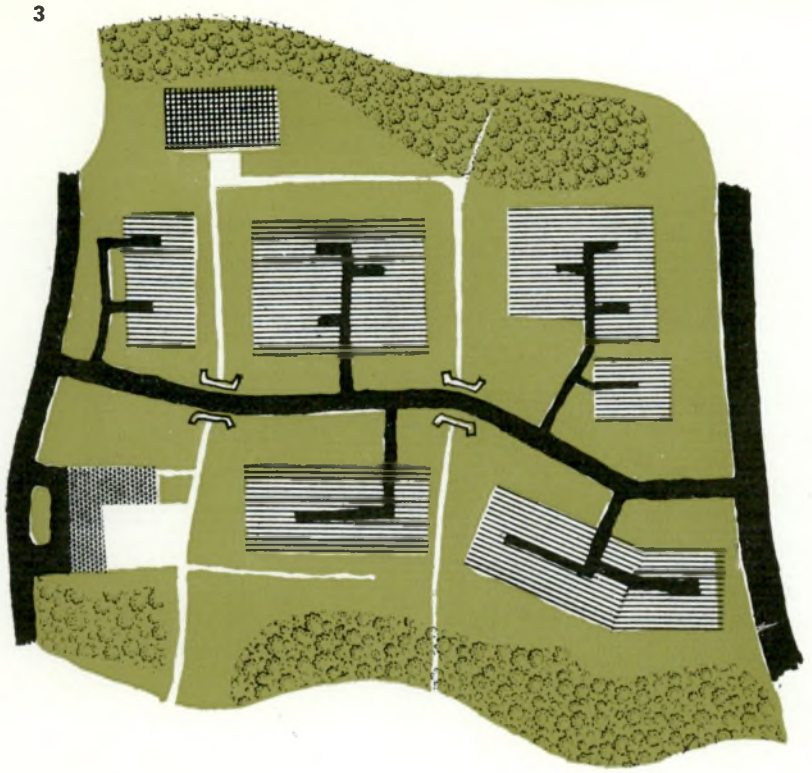


4 Fieldend, Twickenham. A small lay-by for visitors' cars connecting directly with the path system.

(*b*) where existing development, natural features or steep contours make an encircling route impracticable, the opposite occurs. The major distributor becomes a spine road with spurs on either side. To keep the path system independent more underpasses or bridges are needed. (Figure **3.**)

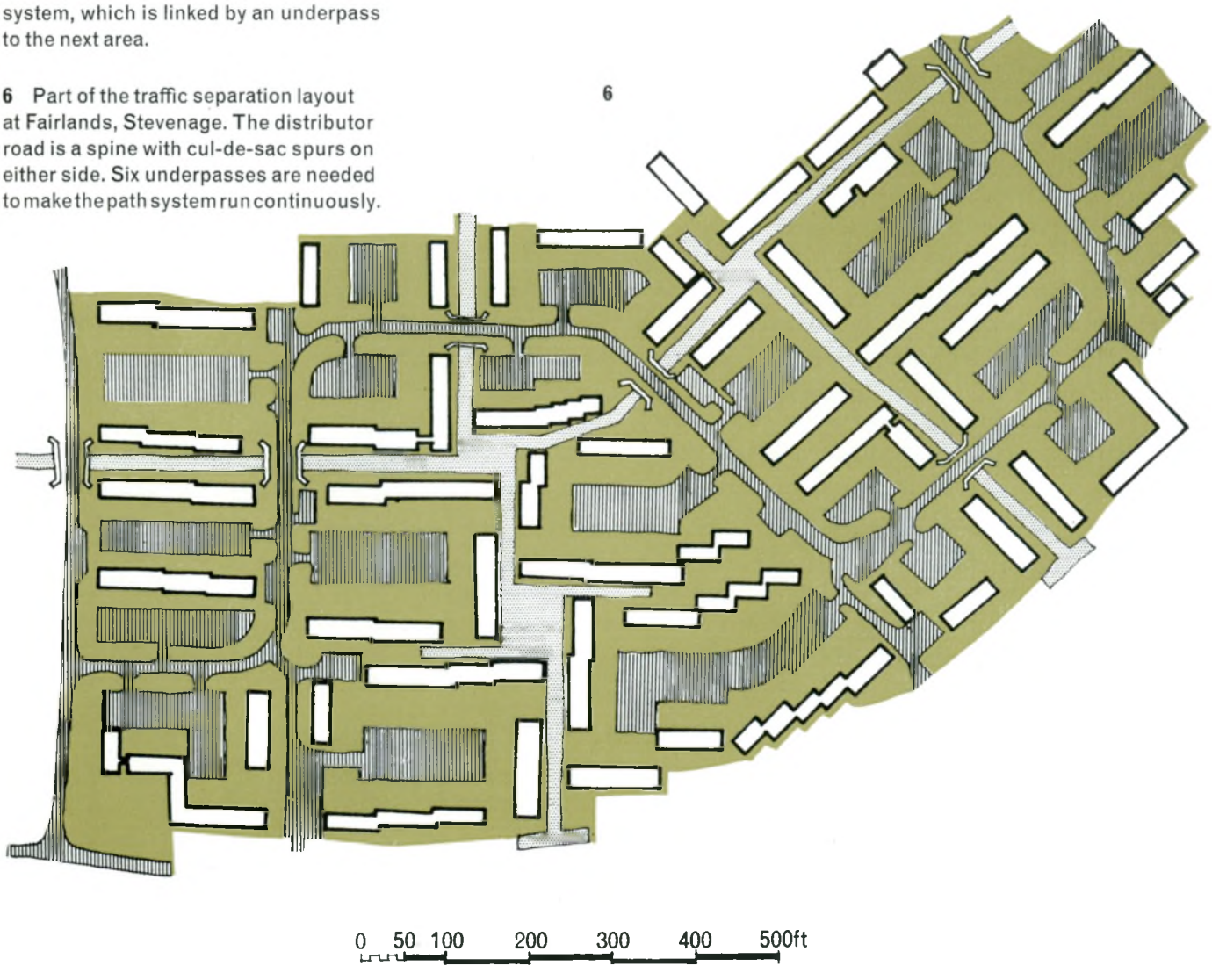
In either case the distributor road should connect directly with a free-flowing major carriageway bringing traffic conveniently into and out of the area. Bus stops which serve the area should themselves be served by pedestrian underpasses wherever numbers of people might otherwise have to make a dangerous crossing of the road at peak hours.

In general, motor traffic routes, including distributor roads, should be considered as lines of danger. The vehicle flow should be planned *for safety above all.* Routes should be made to fit in with the topography of the site. Junctions should be reduced to a minimum. Houses should not front on to traffic roads.

In travelling from one point to another *within the area*, pedestrians should have priority and the shortest route. This may mean sending cars round a longer way. Small parking lay-bys or spurs for visitors' waiting cars should be provided off the main line of traffic. These lay-bys should if possible give direct access to the pedestrian paths leading to houses.

5 Example at Beeston, Notts. Here distributor roads completely enclose the residential area. Nursery school and shops are centrally placed on the path system, which is linked by an underpass to the next area.

6 Part of the traffic separation layout at Fairlands, Stevenage. The distributor road is a spine with cul-de-sac spurs on either side. Six underpasses are needed to make the path system run continuously.



5 A separate footpath system

In any traffic separation scheme the paths must be designed as a full-scale pedestrian network that can be laid out at the same time as the roads and services. They must lead somewhere—to focal points like schools or shops, as well as to houses. And the path system should continue right to the edge of the area, and if necessary to points, such as a school or a rail or bus station, that lie actually outside it. In this way the residential area is connected to the town as a whole.

A path system should be as direct as possible, following any natural path lines unless there is a good reason (such as safety from traffic) for not doing so. Above all, it should be positive. People, and especially children, worry little about paths being dangerous as long as they are convenient, and a path system should make it *inconvenient* for pedestrians at any time to walk along or across any vehicle route, even if the cars have to be made to go a longer way round. Between houses the footpath system should usually be the shortest and easiest route—otherwise walkers will make their own.

Pedestrian movement has some of the characteristics of a stream or river. It follows the course of least resistance from point to point. For the fast walker with a purpose it may be a length of straight channel, widening at bends and junctions. Casual foot traffic sometimes prefers a meandering course, or it can fan out like a delta. But *every* path should reach a logical goal.

Paths must be efficient, but they should also be attractive: not only ramps rather than steps where prams are likely to be taken, and good lighting at night, but seats, planted areas and plenty of paved space for children to play on.

Underpasses or footbridges may be needed to avoid crossing of roads. Underpasses should be sited so that walkers use them as a matter of course, with changes of level as nearly imperceptible as possible: they should be well lit and well drained, and large enough to avoid the appearance of a tunnel.

Likewise the footbridges: pedestrians should not be expected to climb and descend a flight of steps in order to use the bridge. If possible the road should be at a lower level: in any case the path should continue over the bridge with as little change of gradient as possible.

Where there are a lot of cyclists it may be necessary to provide specially for them, either adjoining the footway network itself, or by making a separate track system, as has been done in some of the new towns. In that case costs of underpasses can be kept down by letting the cyclist track and the footpath share them, with a curb between for safety.

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7 A pathway at Hayesford Park, Bromley, Kent.

8 A main pedestrian way at Cumbernauld. Mature trees have been retained.

9 A play space off the pedestrian way through a house group at Lerwick, Shetland.

5 **A separate footpath system**

11

10 Example from Fairlands, Stevenage, where the distributor road takes the spine form. The plan shows the under-passes needed under the distributor road to approach the play area and school.

11 Example of a traffic separation layout from Cwmbran showing dominance of the central path system.
Culs-de-sac are so aligned that the direction and flow along the main pedestrian routes is uninterrupted.

6 The grouping and design of houses

The essential housing component of a Radburn layout is a group of houses centred upon and sharing a vehicle access point from which they can all be serviced. The group should have cohesion and be recognisably part of the scheme as a whole, but there is plenty of scope for variety in the size and idiom of individual houses.

Analysis shows that any complete house group in a Radburn scheme is likely to conform to one of three basic types:

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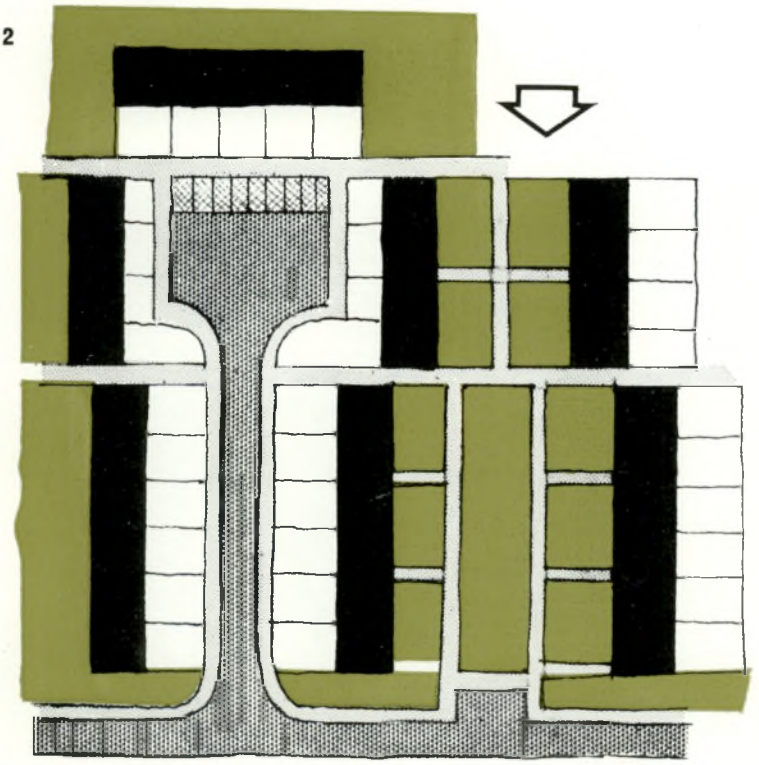

a The vehicle cul-de-sac
with a turning circle or hammer-head at the end of the carriageway, and with individual or grouped garages.

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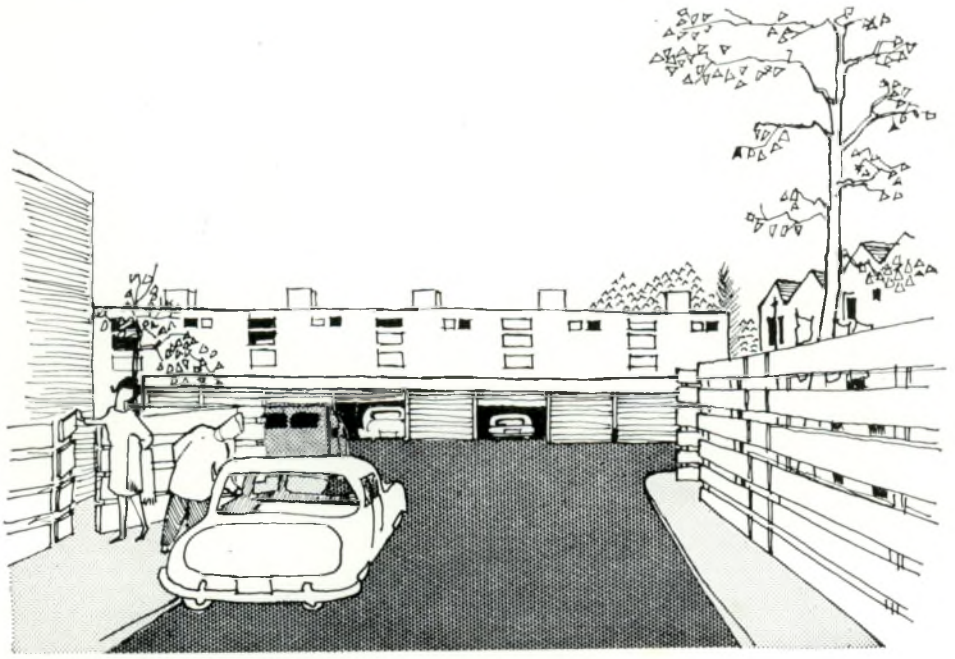

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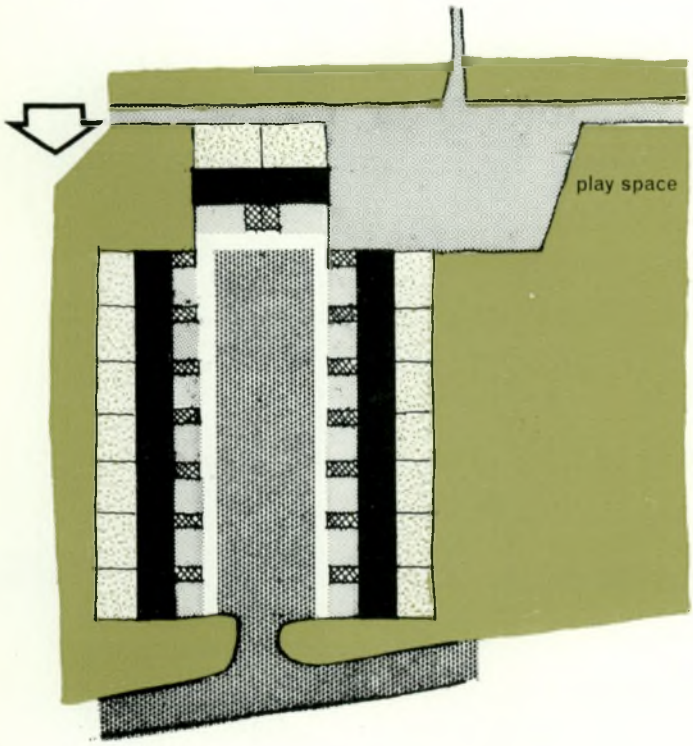
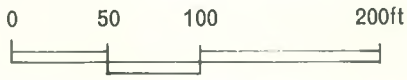


b **The garage court** with the carriageway widened to form a single large enclosure for vehicles and grouped or individual garages.



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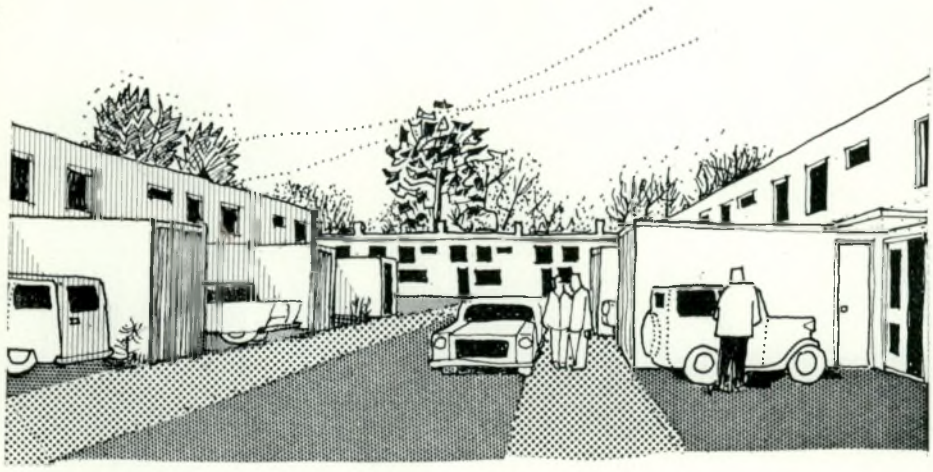

c The pedestrian forecourt. The head of the cul-de-sac or garage court is extended to form a paved pedestrian area from which each house is entered. Garages are grouped away from the houses

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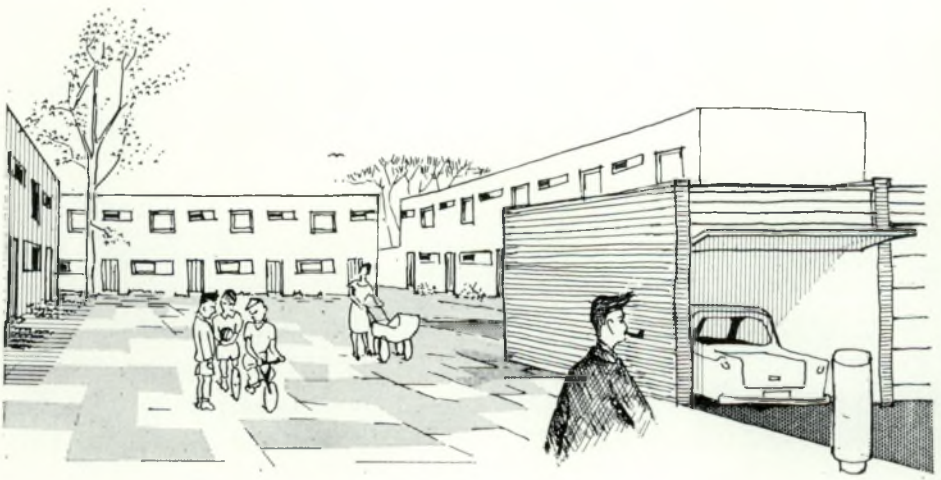

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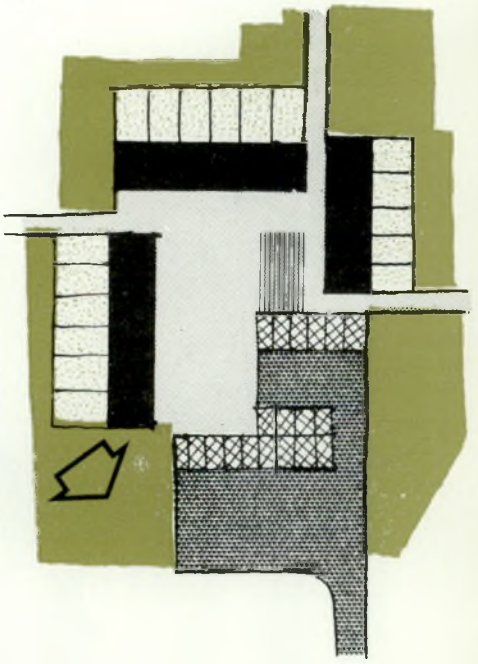

Variations on the pedestrian forecourt are:

c a The pedestrian link where a pedestrian way, lined with houses, forms a link between two vehicle access points.

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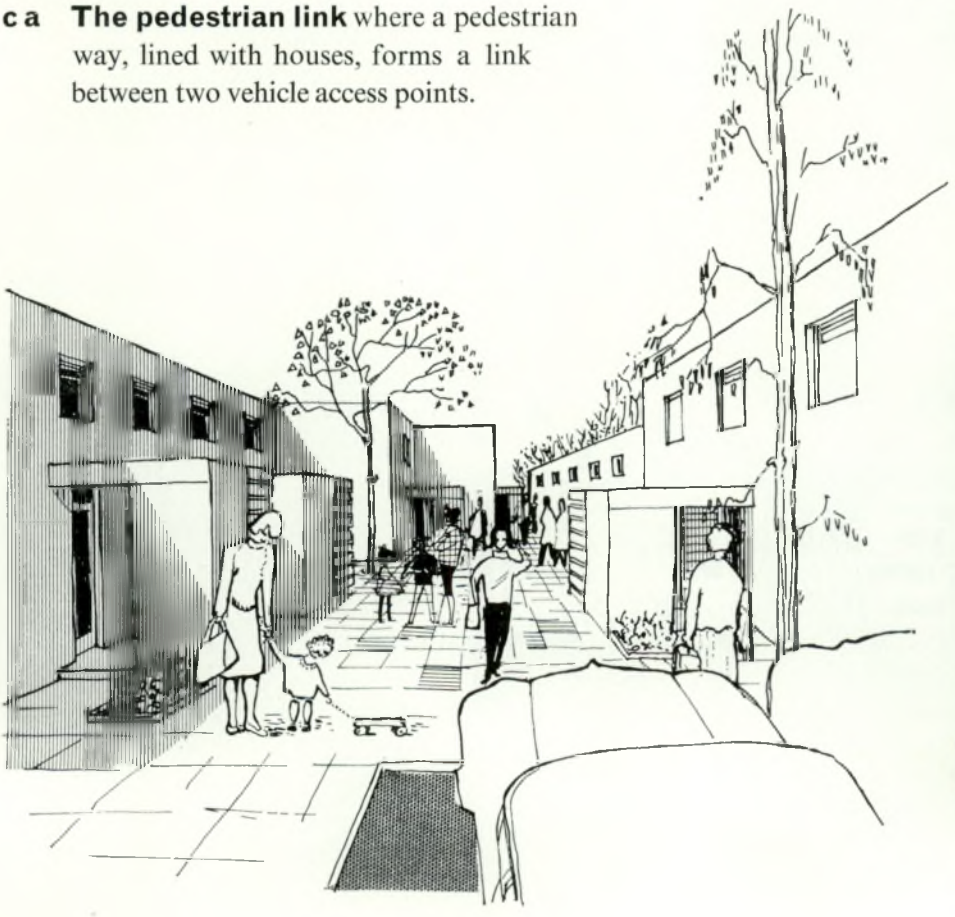

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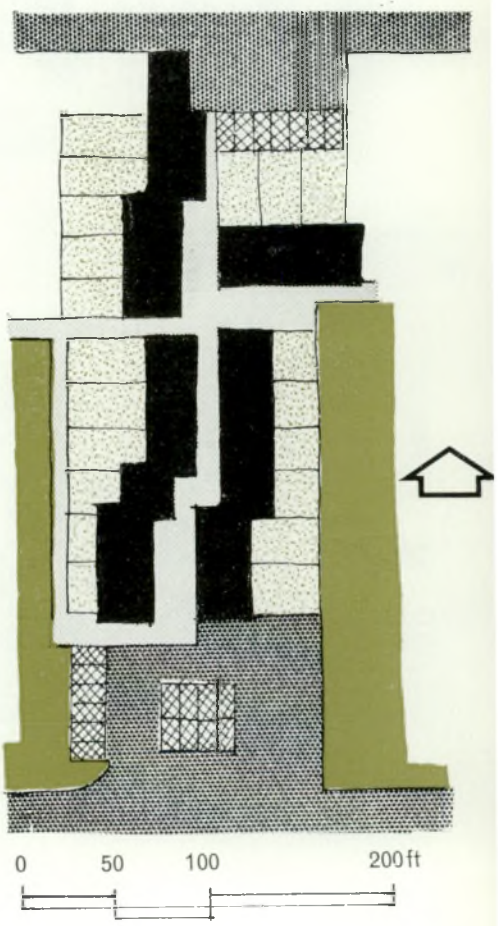

c b The pedestrian passageway where at high densities the forecourt becomes part of a network of footways between houses.

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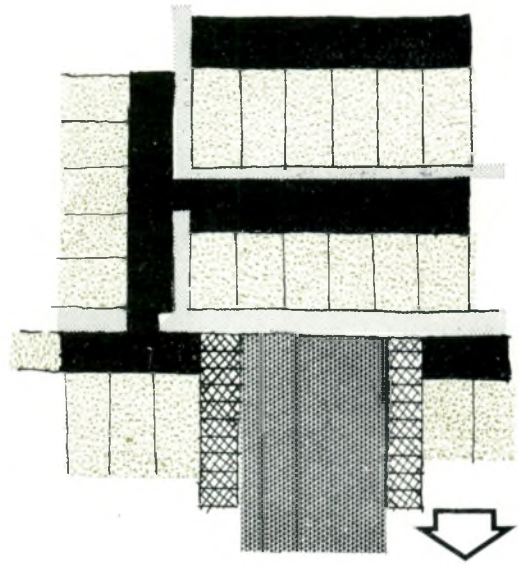

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Each of these types of house group caters for service access, i.e. access by car as distinct from access on foot, in a different way, and they show different solutions for housing the car—sometimes within the dwelling in a built-in garage, sometimes in separate blocks a short walk away.

The next section of the bulletin discusses and illustrates these three types of house group with variations of their basic house plan types.

6A The vehicle cul-de-sac

In the earlier versions of the cul-de-sac form of house group, house terraces are placed back to back across the cul-de-sac and face each other across a landscaped open space which contains the path system, as shown in Figure **12.**

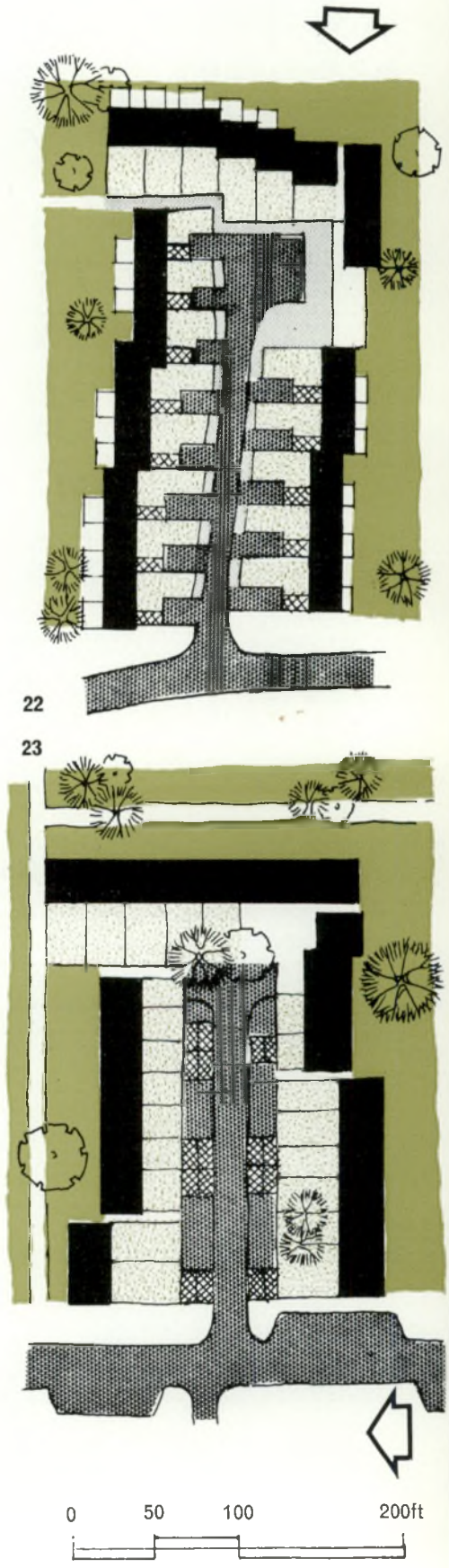
In this type of group (and in the garage court type also) the door for arrivals on foot opens directly on to the path system, while the door for arrivals by car opens on to the cul-de-sac (or court). If there are special lay-bys for visitors' cars, the visitor has the choice of either door.

This double access does away with the traditional distinction between 'front' and 'back' door. It is simpler for the architect to think in terms of a door which is primarily for pedestrians and a door which is primarily for those who have driven up in vehicles, and to regard both the 'front' and the 'back' of the house as equal in importance, and in the care and treatment they require.

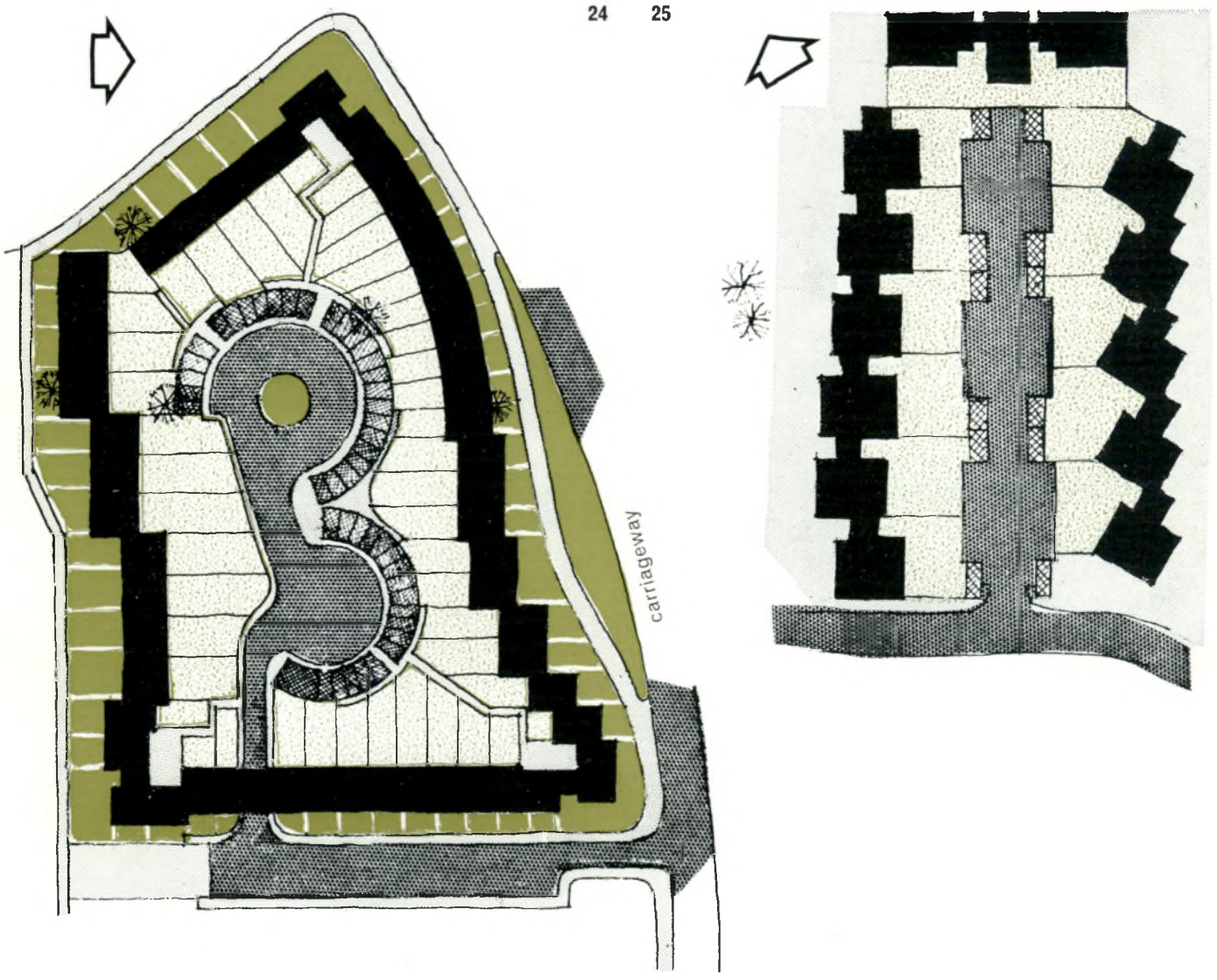
This in turn leads to the characteristic, though not invariable, house for the cul-de-sac and garage court types of house group being called '*dual entry*'. In a cul-de-sac house group nearly all the houses are likely to be dual entry.

It is in the cul-de-sac type of layout that most of the difficulties instanced on page 6 have occurred, as well as certain others. Too much is apt to take place on the cul-de-sac side. The garden or small yard attached to each house is usually on this side, and callers from the cul-de-sac walk through it. Washing hangs out, bulk deliveries are carried in, and dustbins collected. The whole cul-de-sac area can easily become cluttered or squalid.

Recent designs have done their best to counteract these tendencies. Gardens can be placed on the path side, as in the original Radburn layouts: this gives more privacy and allows children to run out of the garden on to a path in complete safety. At the same time, enough space can be provided on the cul-de-sac side for an outdoor 'service threshold' where for example, dustbins can be neatly concealed, while a fence or external store can screen the clothes lines.



6 The grouping and design of houses



22 Fairlands, Stevenage. Separate drive-in from the cul-de-sac to individual garages attached to terrace houses.

23 Almond Spring, Stevenage. Conventional form, but some screening of back garden, with garages.

24 Lee Chapel North, Basildon. A double cul-de-sac with generous provision for garages. A lay-by for visitors' cars is placed to enable visitors to approach houses easily on foot by the path system. The curved shape of the cul-de-sac facilitates street cleaning.

25 Park Area, Cumbernauld. A development of the cul-de-sac with lay-bys and grouped garages. Staggered single-storey house blocks give more privacy than earlier versions by reducing the overlooking from neighbours' houses. The private space is enclosed by high fences. Access gate for refuse collection.

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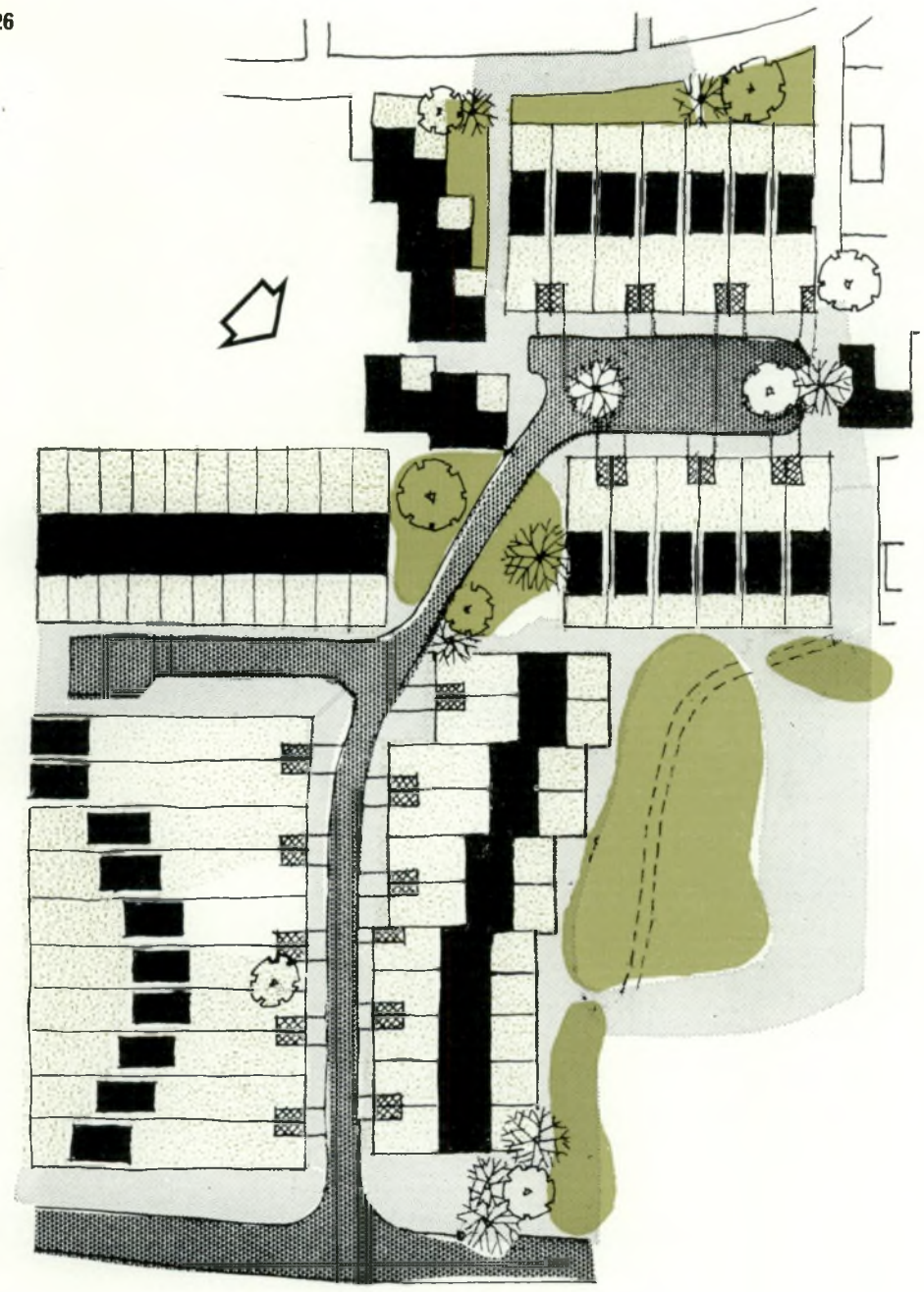

26 Project for a new village in Cambridgeshire. A branched cul-de-sac, 600 ft. in length from the distributor road, with open parking at its head. Garages are in pairs inside gardens and are entered direct from the carriageway. There is private garden space on both sides of the house. A low density layout (9 houses to the acre).

The vehicle cul-de-sac house

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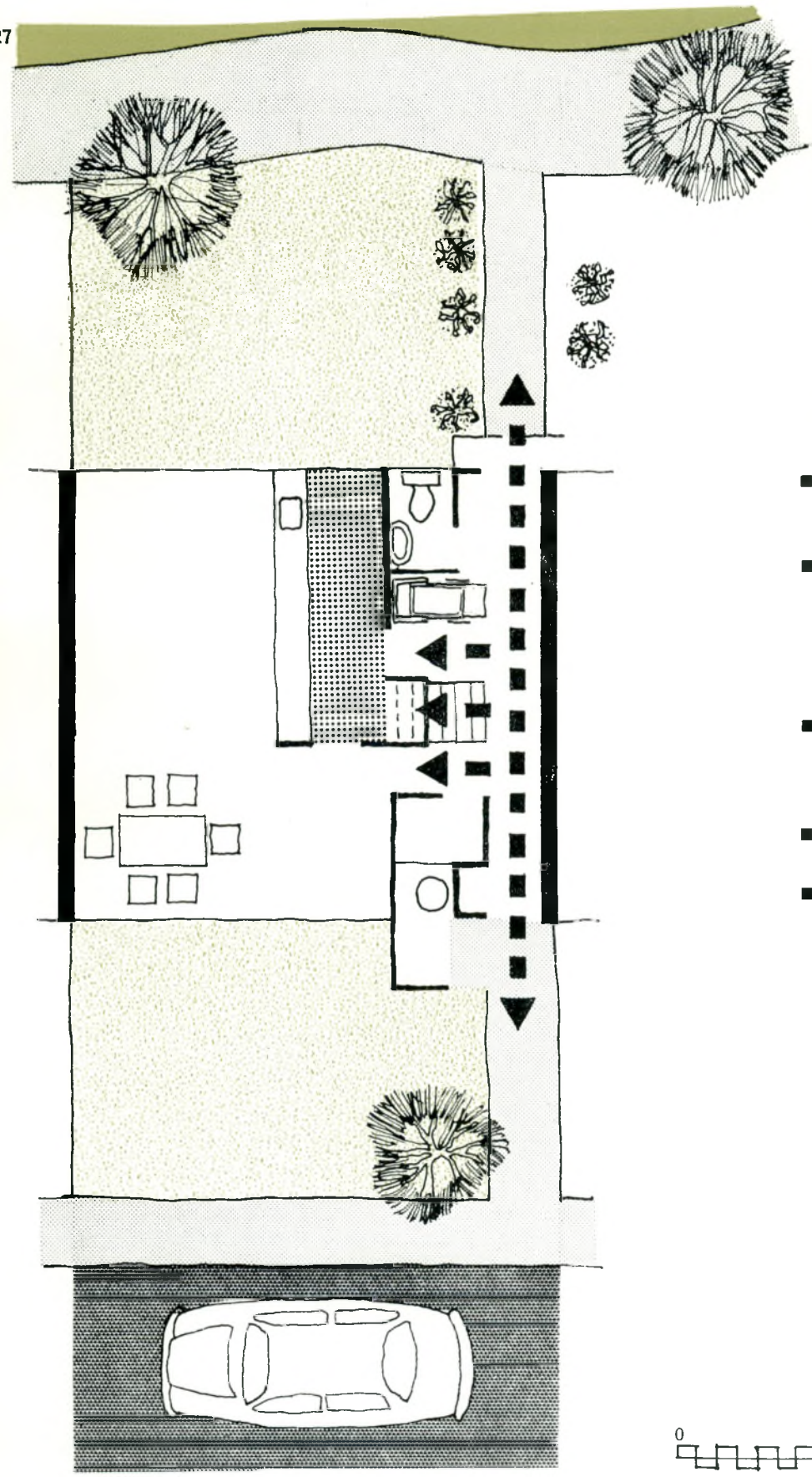

Figure **27** is a diagrammatic house plan suitable for the vehicle cul-de-sac form of house group. Both doors are equally important for receiving callers.

Callers at the door on the path side will naturally be visitors on foot who may have left their cars in a parking bay; postal and newspaper deliveries; and canvassers, salesmen, etc. The letter box will be in this door. The open space on this side may be publicly maintained.

The door on the cul-de-sac side will cater for all arrivals and departures by car, bulk deliveries from vans, and refuse collection. It can be entered without crossing the garden. Other points about this type of house are:

- The baby's pram can be wheeled out on either side, whichever is sunnier, from the through hall.
- Children may play either on the cul-de-sac side (provided that the garden or yard is adequately enclosed for safety) or on the path side where they can be under their mother's eye when she is in the kitchen.
- The clothes line, which will naturally be on the cul-de-sac side, is easily reachable from the kitchen without carrying washing through the living area.
- A recessed entry and a canopy protects callers from wet or cold at either side.
- Callers approaching on the path side are directly visible from the kitchen.

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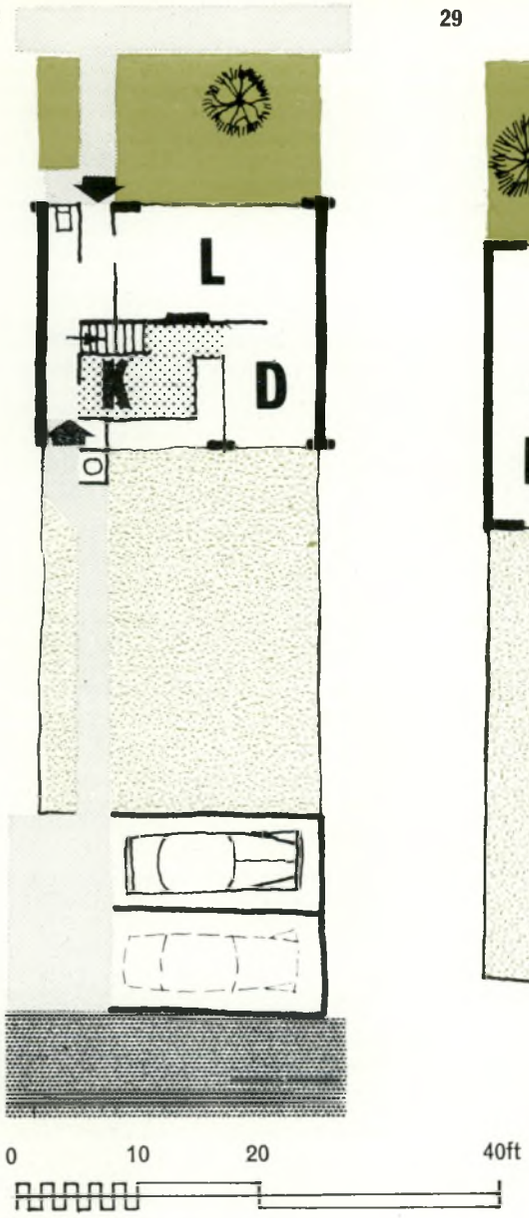

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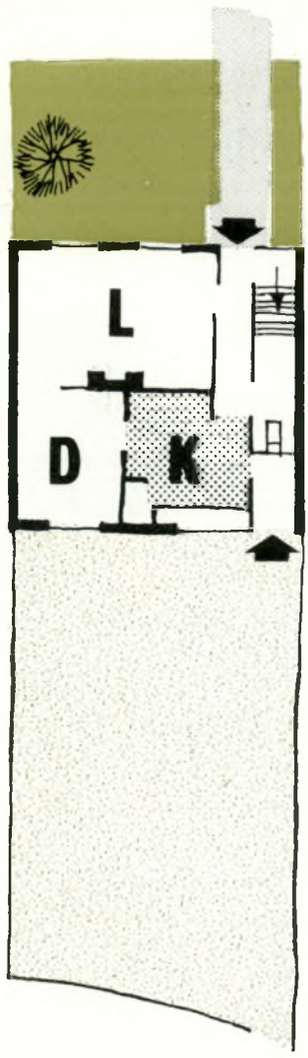

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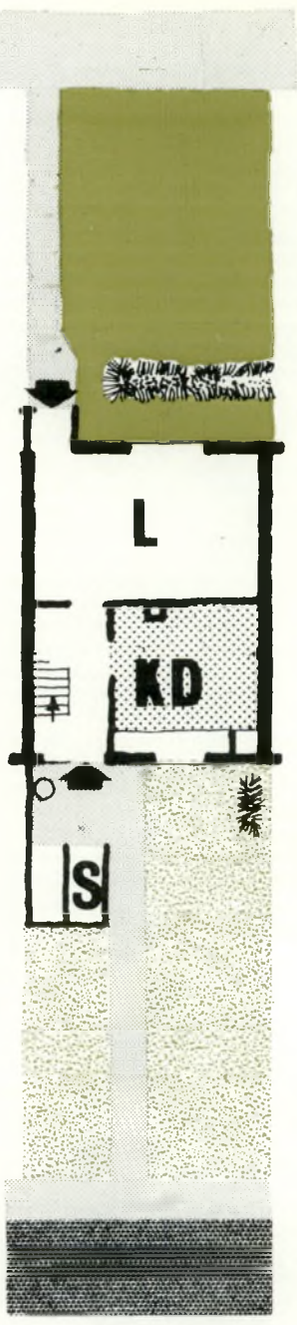

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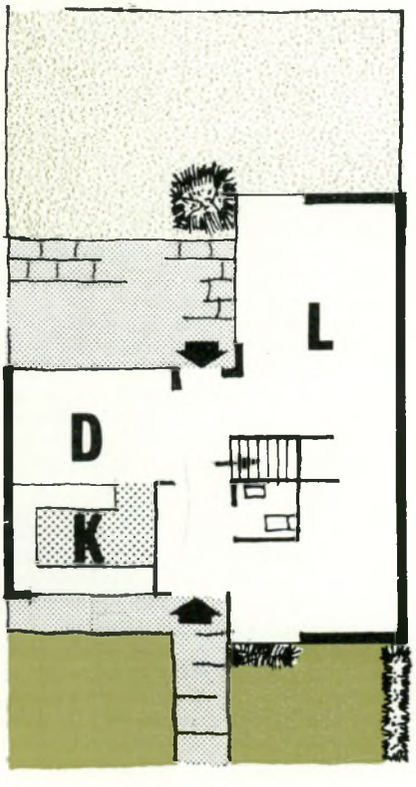


Variations on the basic house plan

28 Fairlands, Stevenage. A dual entry house with private space on one side only. The hall leads right through the house without going through any of the rooms.

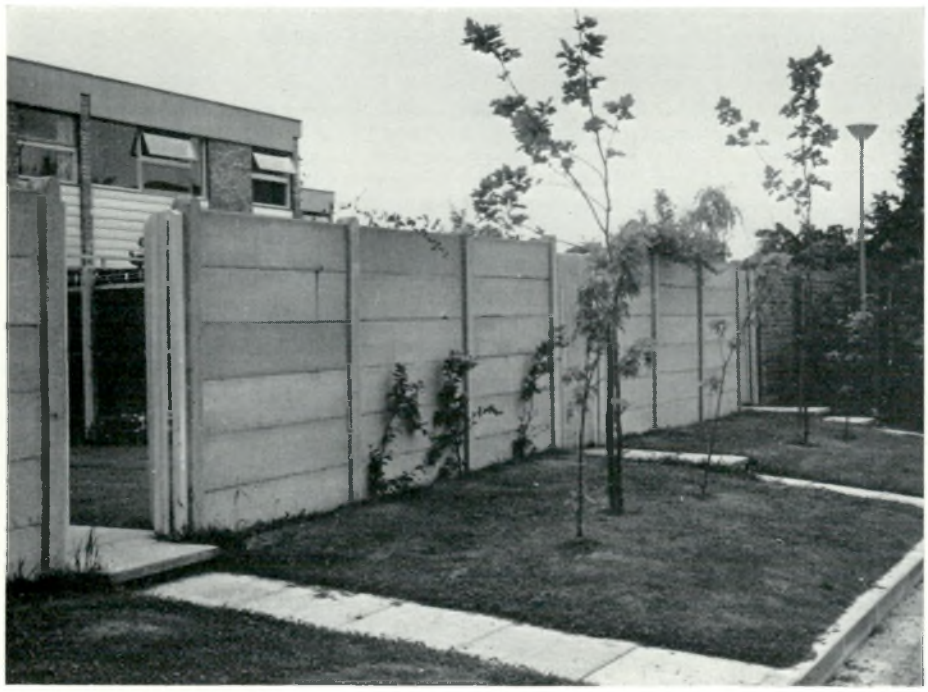
29 Lee Chapel North, Basildon. Dual entry. Going through the house, you pass through the corner of the kitchen, but without crossing the working area.

30 Adaptable house designed by the Ministry of Housing and Local Government for the Ideal Home Exhibition 1962. Movable partitions enable this house to be adapted for entry into a central hall with access right through. The L shape allows for a small garden or court on the pedestrian side.

31 Wrexham. A dual entry house from one of the first traffic separation schemes designed in this country. Entrance direct into the living-room.

32 Fieldend, Twickenham. A scheme with enclosed private gardens on the cul-de-sac side, and a verge between fence and carriageway as an additional safety measure. The path side opens on to a publicly maintained green.

33, 34 Two schemes with direct entry from the path system. Corby (**33**) and Fox Hill, Nottingham (**34**).



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6B The garage court

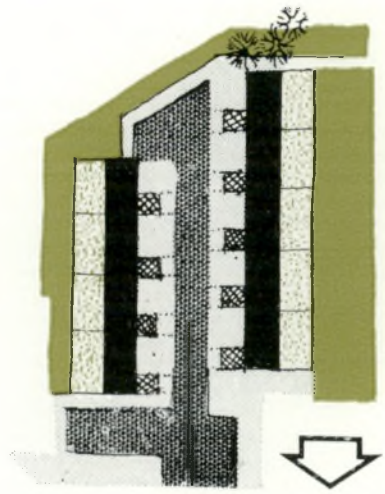
Both the increase in car ownership and higher residential densities[1] make it necessary to provide for more cars in a given area. From this need a rather different type of grouping has emerged. The earlier cul-de-sac has been widened to create what has here been termed a 'garage court', and this is illustrated by the diagram and sketch on page 15. (Figures **14** and **15.**)

Space which in the cul-de-sac house group was used for gardens on the cul-de-sac side is now more likely to be used for garages, hardstanding or open parking for vehicles. This means that space available for gardens occurs generally on the path side of the house. As a counter-attraction to the larger hard surface of the garage court the main path should be widened at intervals to form equally interesting play spaces for each group of houses.

The garage court should have plenty of room for manoeuvring of vehicles, car washing and maintenance. Cars can be brought close to the houses. Visitors' cars can be accommodated on the hardstandings. All this, with the placing of the garden on the path side, is likely to increase the proportion of callers coming to the door on the garage court side, and so give more privacy on the path side.

Some of the callers on the garage court side will inevitably be pedestrians. A change of surface texture will help to keep them from passing too close in front of an open garage door when a car may be reversing outwards.

[1] See the Ministry's Planning Bulletin 2: *Residential Areas—Higher Densities* (HMSO 1962; 2s.)



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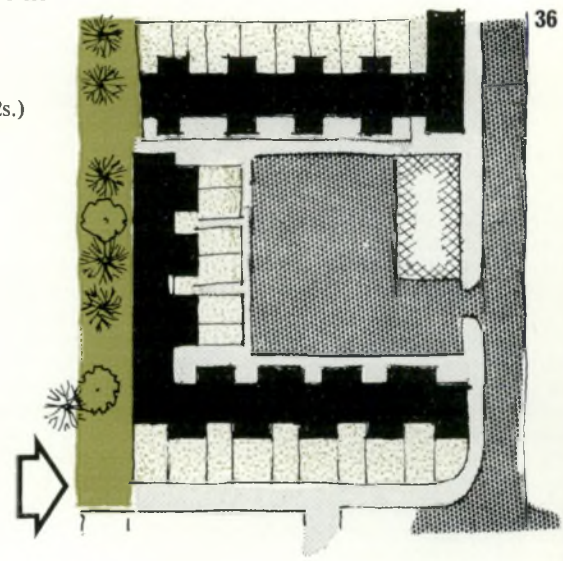

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35 South Passmores, Harlow. Garages are attached to the houses, with hard-standings at their side. There is a turning space at the head of the court. On the opposite side of the terraces are private gardens, with landscaped open space beyond.

36 Laindon, Basildon. A covered car port combined with open parking space. In this layout some private gardens are on the garage court side.

37, 39 Houses in a garage court layout at Hayesford Park, Bromley. (**37**) Entry from the path side. This terrace has no enclosed private gardens. (**39**) The garage court side. Grassed strips and a paved drive-in for each garage enable cars to back out without danger to pedestrians in the court.

38 View in a garage court at Paradise Row, Henley-on-Thames. The garages are incorporated in the terrace of houses and there are small enclosed private gardens on the other side.

The garage court house

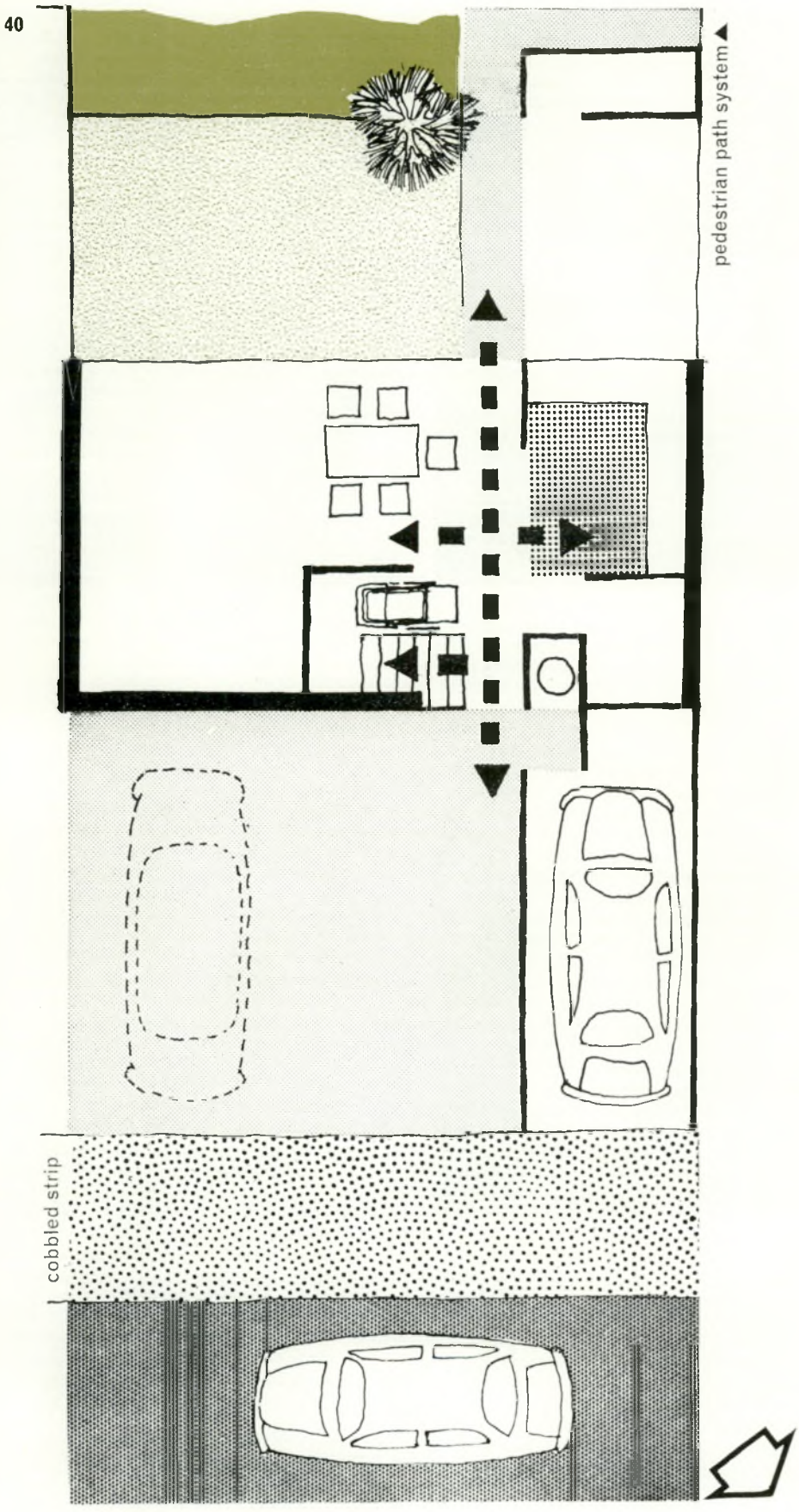
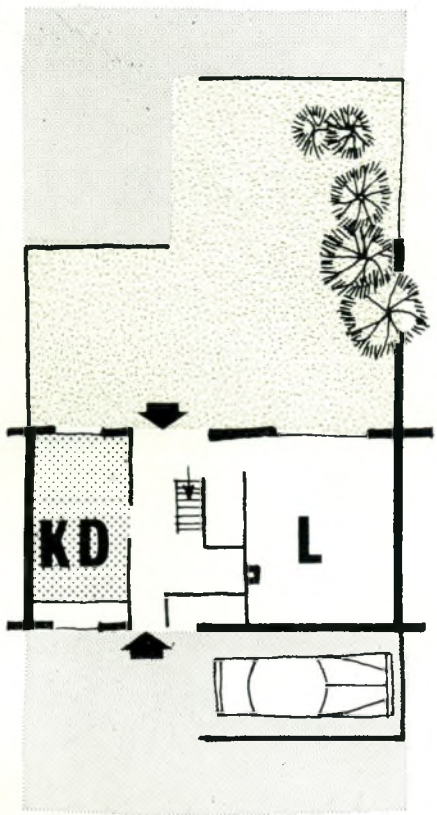


Figure **40** is a diagrammatic house plan for the garage court form of house group. This is still a dual entry house, but such callers as the postman, the newspaper boy, the doctor, the vicar, canvassers, salesmen and gas and electricity inspectors, are more likely to use the garage court door. Further points are:

- The kitchen (with a clothes line close outside) overlooks the private garden and play space which leads directly to the pedestrian path system.
- The garage court door can easily be reached from the kitchen, though callers there are not seen approaching.
- There is direct access from the house to the path system, and entrance to the house from the garden without crossing the living area. Working clothes or boots can be discarded in the store.

41



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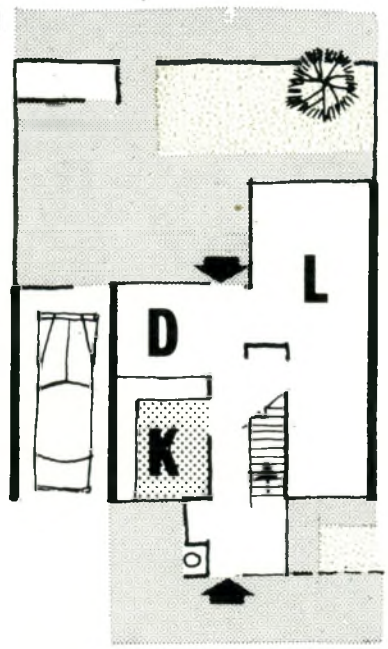

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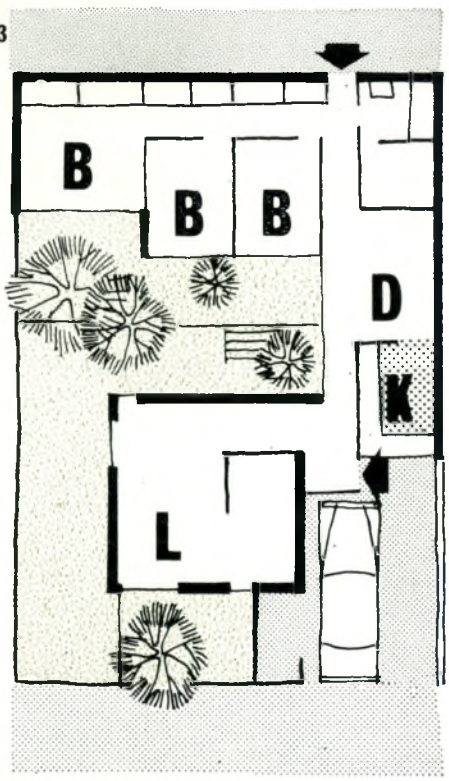

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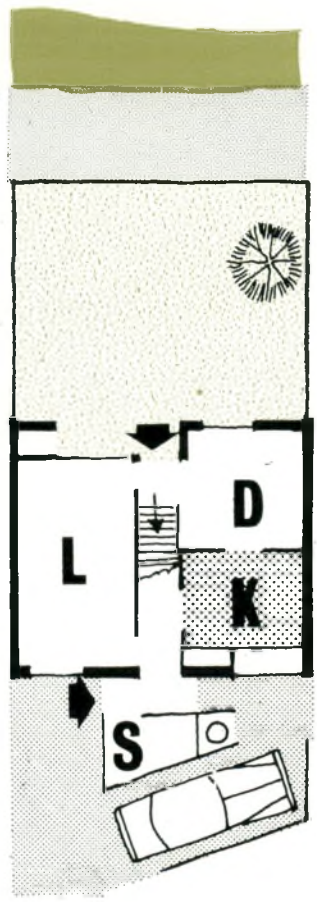

Variations on the basic house plan

41 South Side, Cumbernauld.
A dual entry house with through hall. The garage is attached. The dining-kitchen looks out both ways, and callers at either door can be seen. Pedestrian entrance through private open space.

42 Ravenscroft Close, West Ham.
A 4-person house with dual entry and built-in garage.

43 Paradise Row, Henley-on-Thames.
A dual entry patio house. The service entrance is combined with the car port. Visitors enter from the path side. A walled garden gives complete privacy.

44 Warley, Essex. A car port, combined with an outdoor store, provides the house with a sheltered entrance.

6C The pedestrian forecourt

In this type of house group the head of the vehicle cul-de-sac is extended to form a paved area or forecourt across which pedestrians can move freely, as it is connected to the main path network. (Figures **16** and **17.**)

Houses are entered from this forecourt: on their other side are enclosed private gardens, which may have a rear entrance. Garages are grouped at the nearest access point to the houses, and there should be generous provision for casual parking and plenty of turning space.

Goods may be taken or carried across the paved area, but the distance should not be too long. This involves some co-operation on the part of tradesmen and local authority services (for refuse collection, etc.).

Children can play on the paved area under supervision from the windows of kitchens or main rooms. Large areas in permanent shadow should therefore be avoided.

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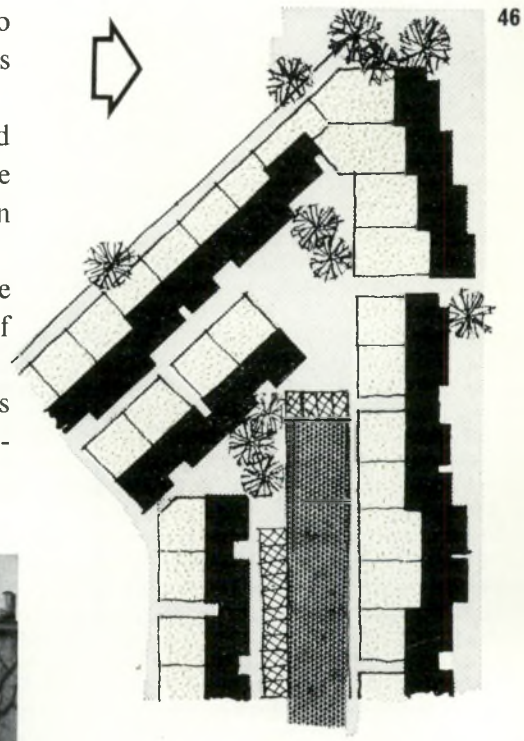

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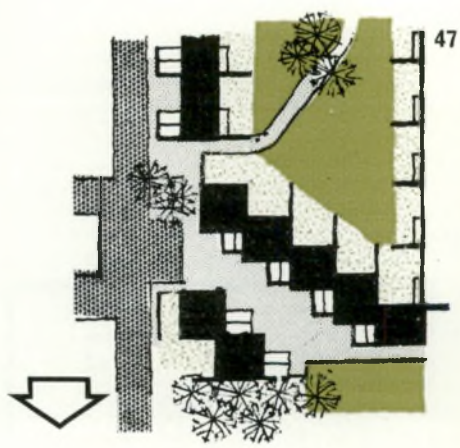

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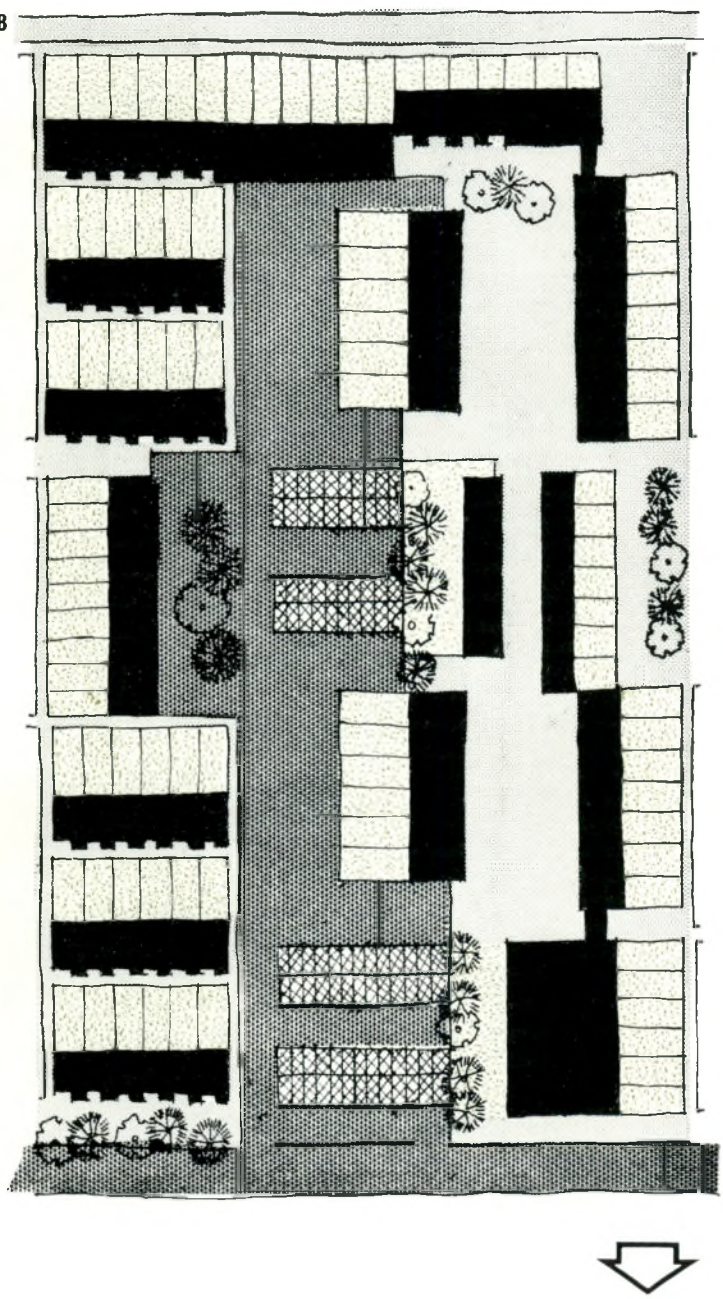
45 A pedestrian forecourt at Vanbrugh Park, Blackheath.

46 Clement's Area, Haverhill. A variation of the pedestrian forecourt layout in which terraces of houses flanking the forecourt are all orientated either to south or south-west.

47 Passmores, Harlow. A proposed scheme in which staggering of the houses increases privacy and gives a sense of enclosure.

48



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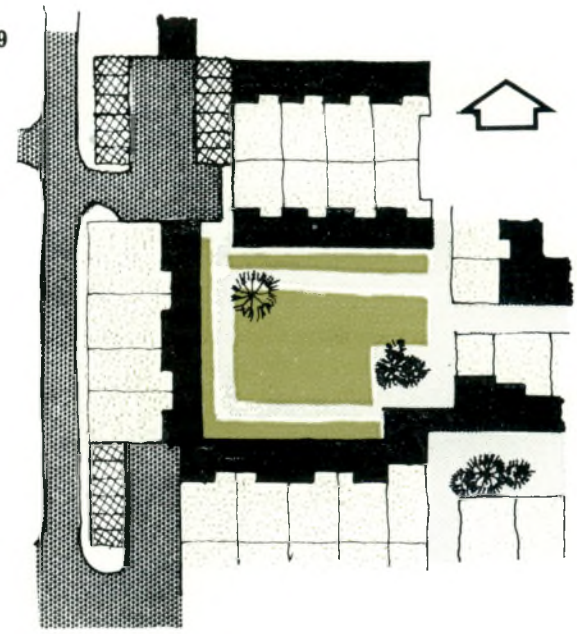

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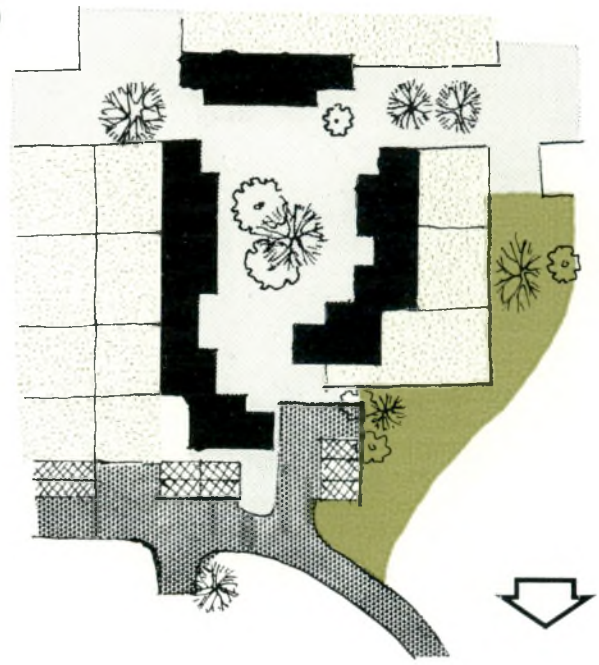


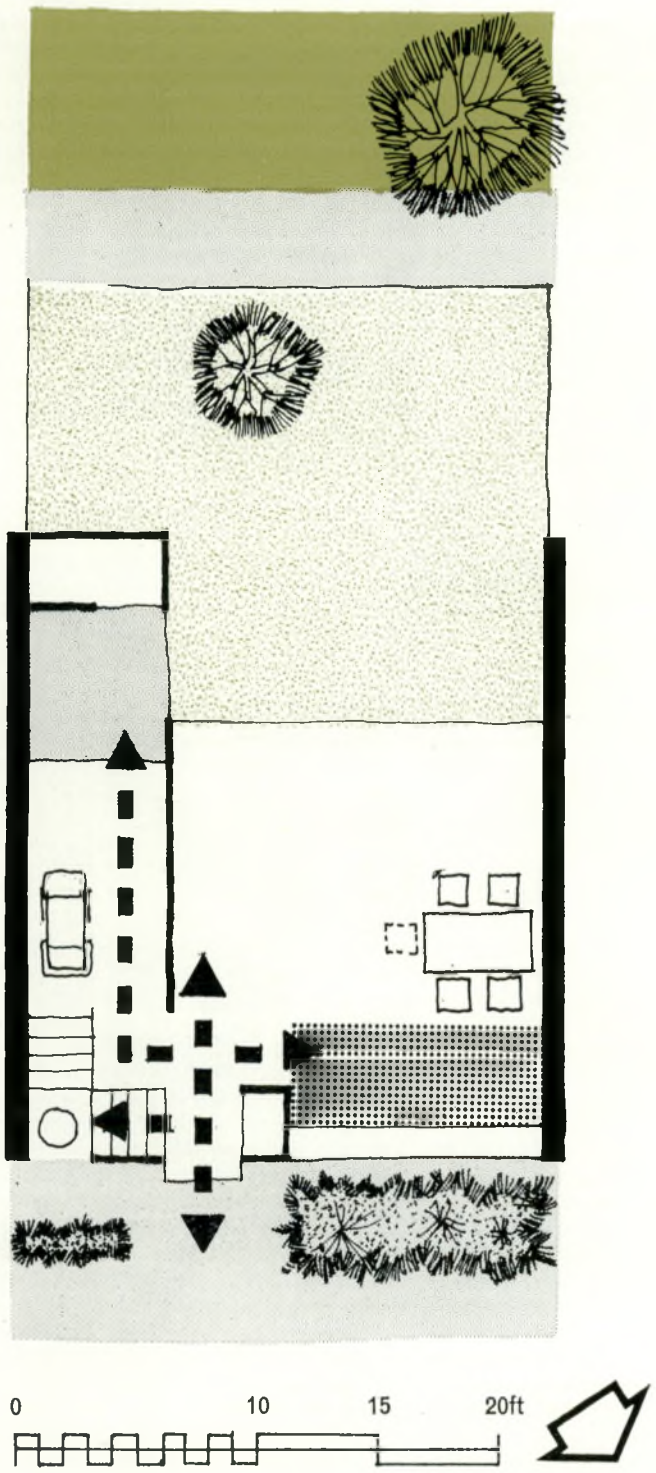
48 Hook. A pedestrian forecourt project for the once-proposed new town, with grouped garages and generous parking bays. The spacious forecourt is on the west side, and on the east side a pedestrian passageway arrangement as described on page 33.

49 The pedestrian forecourt becomes a close at Bracknell.

50 Andover, Area 11. A typical example from the scheme for the expanded town.

The pedestrian forecourt house

51



The diagrammatic plan (Figure **51**) has the door opening on to the pedestrian forecourt and used by all callers and visitors. There is easy access through the store to the garden behind. The kitchen window looks out on to the forecourt, so that an eye can be kept on children playing there.

There can be a garden gate for materials to be brought into the garden, otherwise all goods, from parcels to furniture, are taken or carried to the one door from the vehicle access point. Complete privacy is provided by the enclosed space or garden behind.

Variations on the basic house plan

52 Aldershot. Single entry patio house for 4 to 5 people. The entrance hall leads straight through the house to the garden.

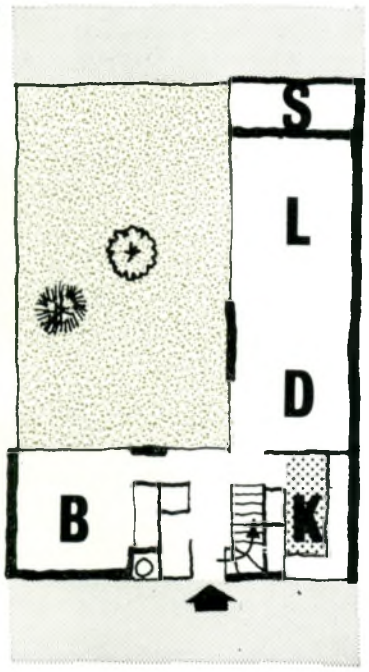
53 St. Dials, Cwmbran. A dual entry house, with both doors on the forecourt side. The dining area leads through to the garden.

54 A narrow-fronted house designed for the London County Council Brandon Estate, Southwark, and schemes at Spring Walk, Stepney, and Pier Road, North Woolwich. Passage to the garden is through the living-room. The garden has a back gate giving on to a path.

55 Andover, Area 12. Another dual entry house, designed for the town expansion scheme, with the two entries on the forecourt side.

56 Hackney Wick. A single-storey patio house for 7 people with circulation straight through the house to the private court without going through the living area.

52



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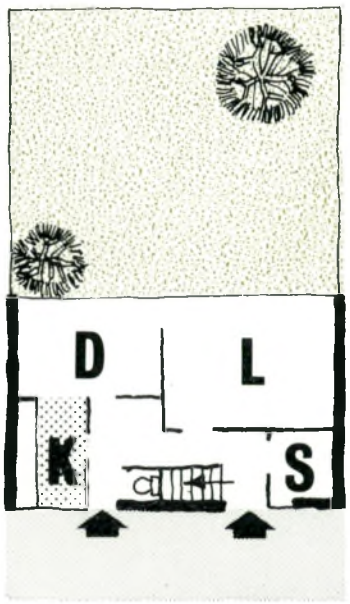

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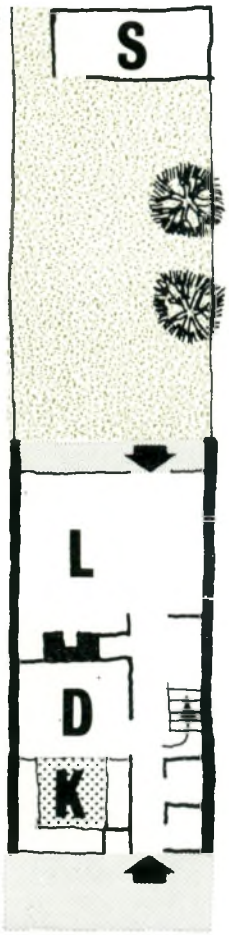

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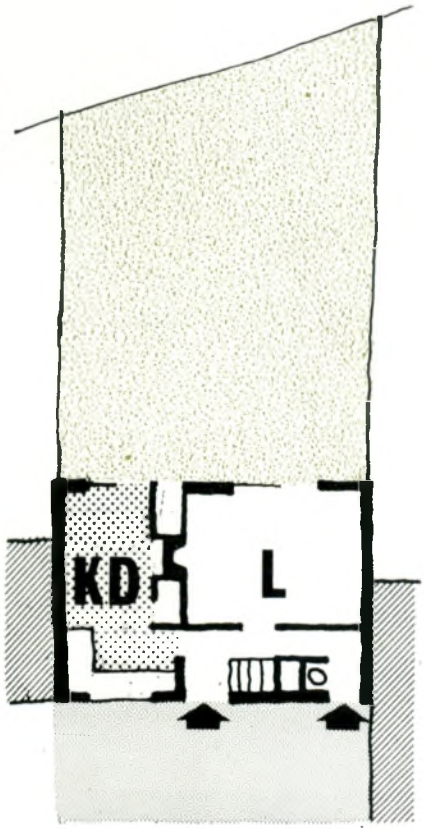

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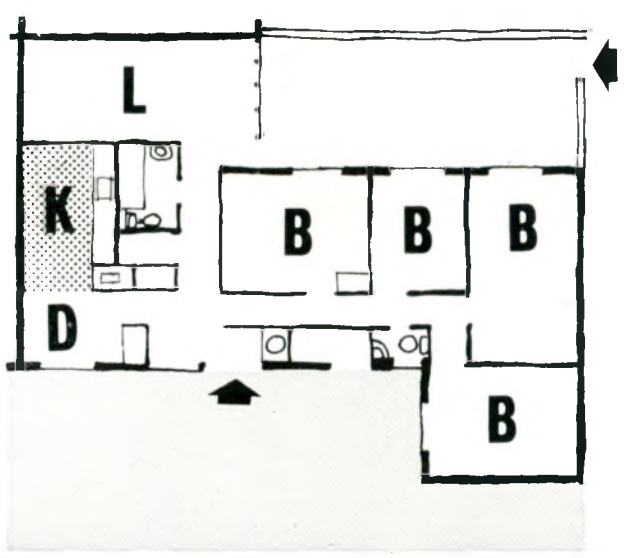
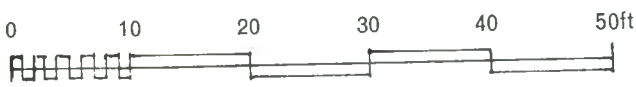


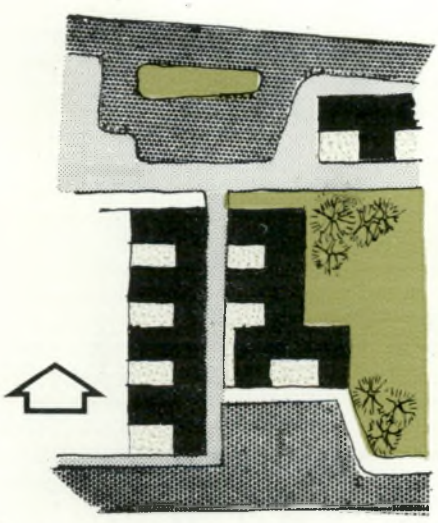


6Ca The pedestrian link

This is a development of the pedestrian forecourt. (Figures **18** and **19.**) The court is narrowed to become in effect a pedestrian link between two vehicle access points. Its length is limited by the maximum reasonable carrying distance for goods from the access points, which in these schemes has been set at about 300 ft. Like the forecourt, this link is directly connected with the main path system.

As before, cars are accommodated in grouped garages or car parks at the vehicle access points.

House types are single entry and basically the same as for the pedestrian forecourt; but they need also to be 'blind side' (i.e. with no ground floor windows on the pedestrian way, except possibly a kitchen window). This keeps passers-by from looking into living-rooms.



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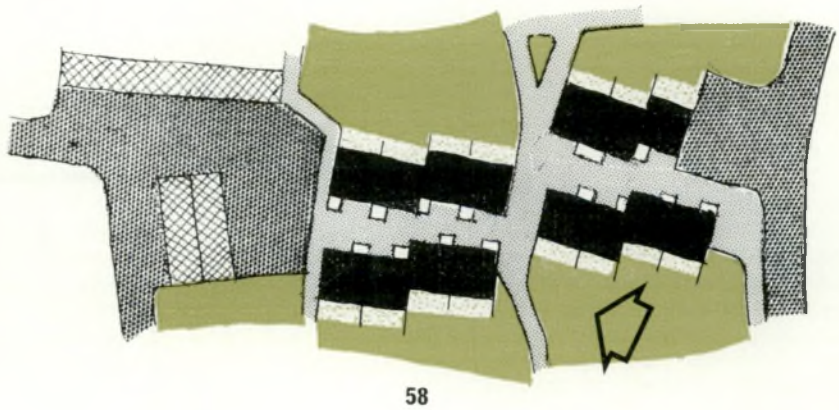

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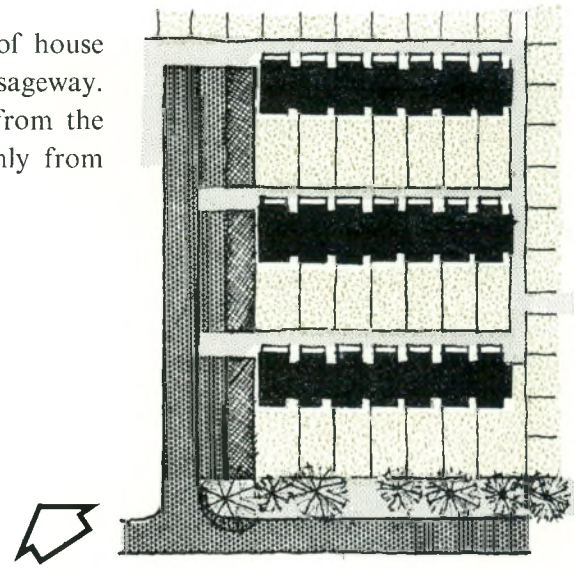
57 Inch View, Prestonpans, East Lothian. A covered pedestrian way linking two vehicle access points on the perimeter road. Courtyard houses are stepped up a 10° slope, and the continuous stepped roof-line allows for a form of clerestory lighting.

58 North Stannington, Sheffield. Informal grouping of short terrace blocks along a pedestrian way between vehicle access points and crossed by the main pedestrian spine.

6Cb The pedestrian passageway

In this higher density version of the pedestrian forecourt type of house group (Figures **20** and **21**), the forecourt becomes a pedestrian passageway.

All living-rooms face south or west. The houses are entered from the passageway and need to be 'blind side' to give privacy not only from passers-by but from overlooking as well.



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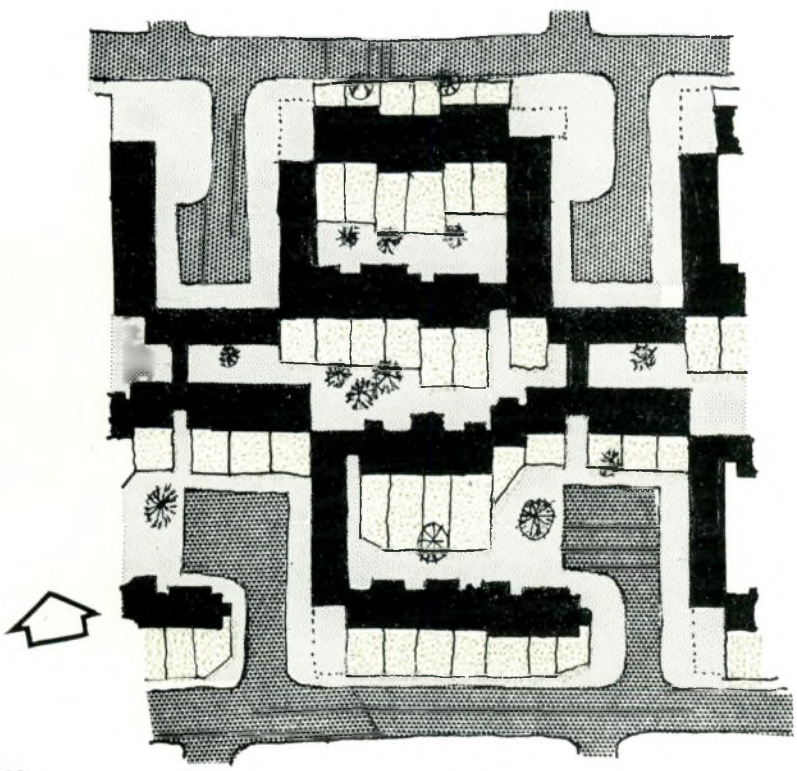

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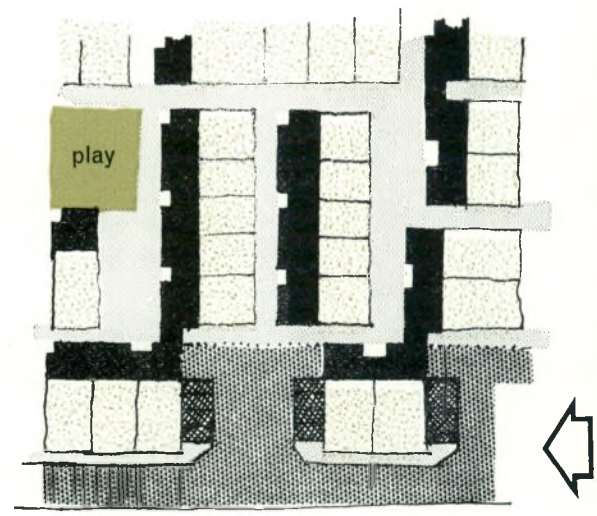


61

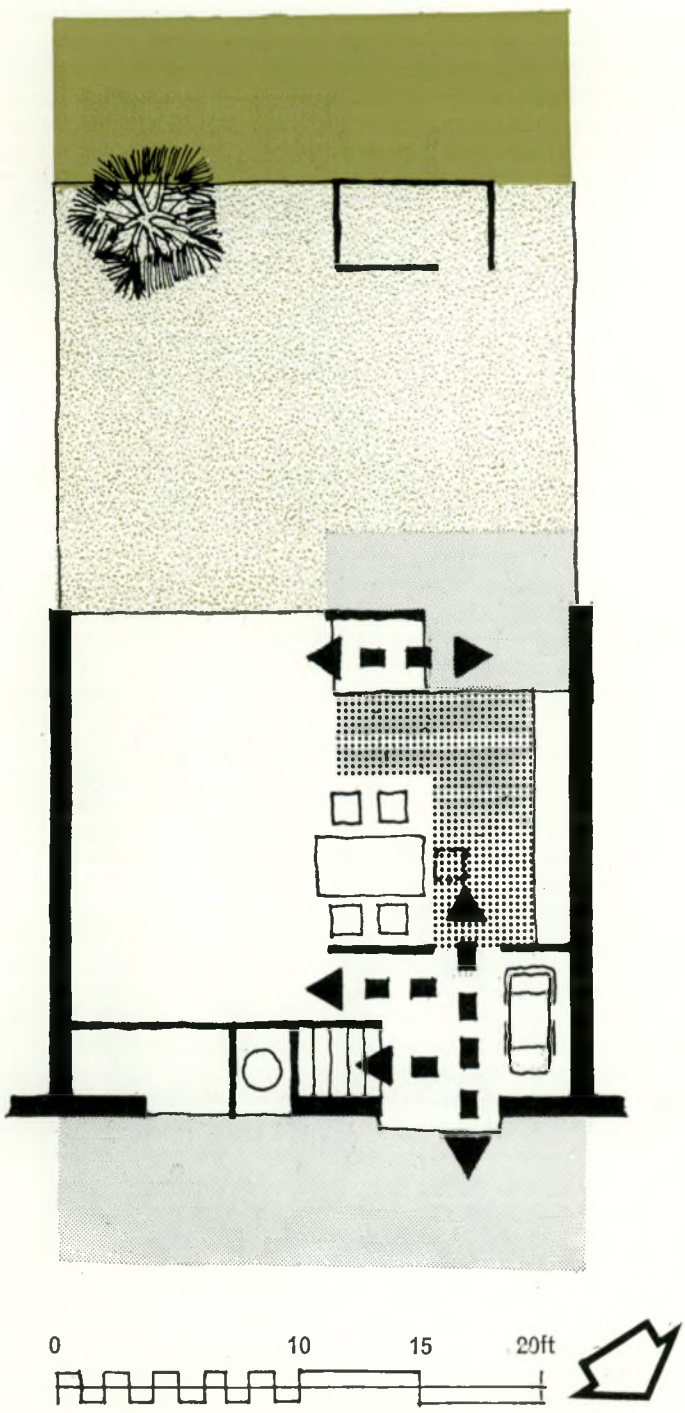
59 Seafar, Cumbernauld. 'Blind side' terrace houses. This particular type of layout needs high fences round each garden to ensure privacy, without cutting off sunshine or giving the housewife a feeling of isolation.

60 A group from the Greater London Council scheme at Yeading Green, Hayes, featuring a modified form of pedestrian passageway. Irregular width and change of direction make for variety and interest.

61 A group from Winklebury, part of the expansion of Basingstoke. Care has been taken to provide good sight lines for vehicles turning in from the main cul-de-sac or leaving. The close network of passageways opens at intervals to provide safe internal play spaces.

The pedestrian link or passageway house

62



As the diagrammatic plan shows (Figure **62**) this type of house is 'blind side', so that passers-by cannot look in. The door, which serves all callers, opens on the pedestrian way.

All main rooms overlook the garden, and the landscaped open space beyond, and should be placed to receive all the sunlight possible.

The kitchen opens directly on to the garden.

63

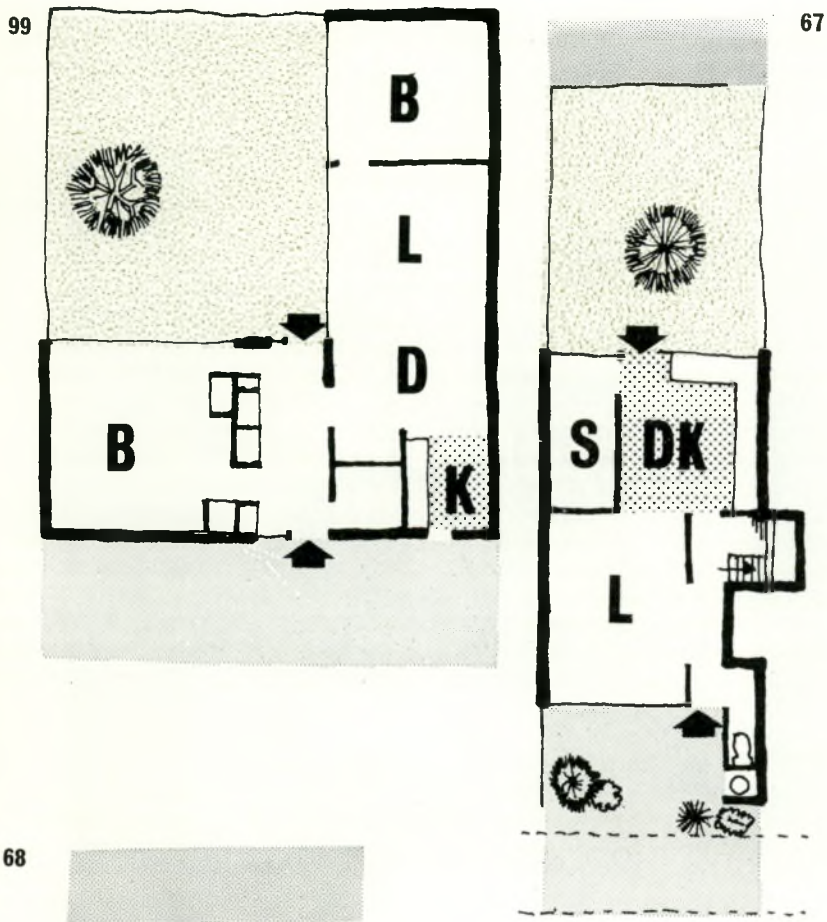
64

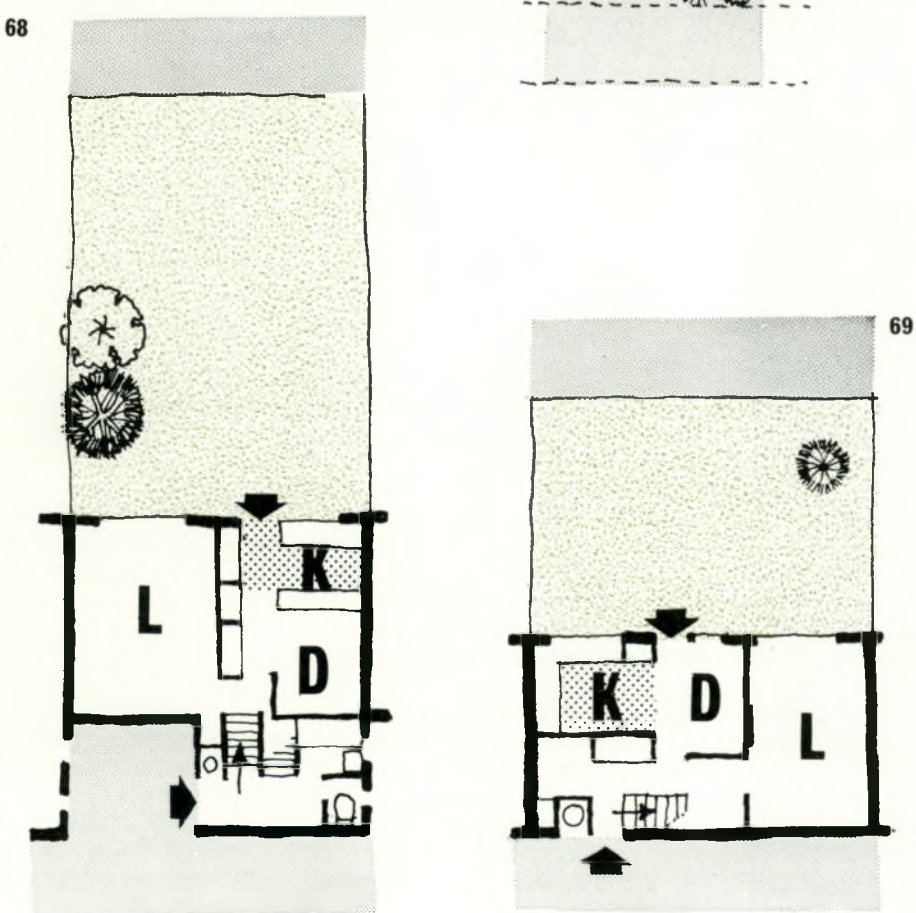
65

63 Seafar, Cumbernauld. The pedestrian link has a flight of steps between vehicle access roads on two levels.

64 Another pedestrian link from Seafar, Cumbernauld, with a main pathway at intermediate level running through at right angles.

65 Burntisland, Fife. A passageway with steps and ramp.





Variations on the basic house plan

66 Inch View, Prestonpans, East Lothian. A 'blind side' patio house, entered from a covered pedestrian link. The entrance hall leads straight through to the patio.

67 Laindon, Basildon. An interlocking terrace house for 4 to 5 people. A small entrance court prevents the living area being overlooked from the passageway. Access to the garden is from the dining-kitchen.

68 Orchard Hill, Lewisham. A 5-person terrace house on two levels with one of the entrances from a small court off the passageway. All rooms face south.

69 Carbrain, Cumbernauld. A 'blind side' terrace house with a wide frontage.

7 Some current traffic separation schemes

In the following pages six current schemes are illustrated. They have been chosen both for their intrinsic interest and to show some of the variety of ways in which the problem of traffic separation can be tackled.

Some of these schemes, 1, 2 and 6 for example, adopt more than one method of accommodating cars. Garages may be built-in or grouped away from the houses in different parts of the same scheme. Comparative figures of densities and provision of garages in these schemes are given in the table on page 50.

What the schemes show above all is that the principles discussed in this bulletin are extremely flexible in their application.

1 Laindon, Basildon

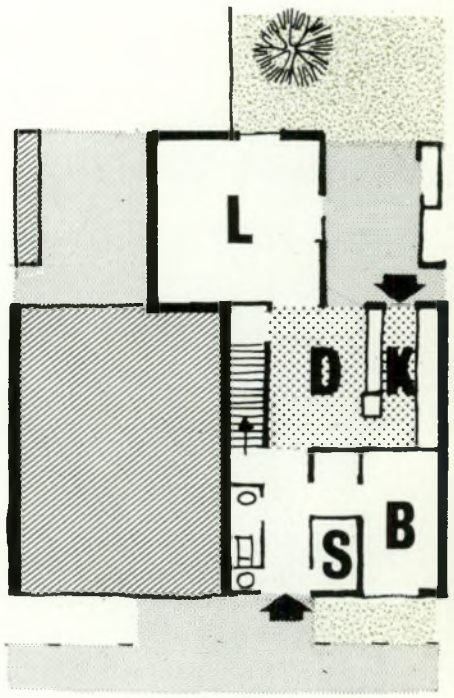
Basildon Development Corporation

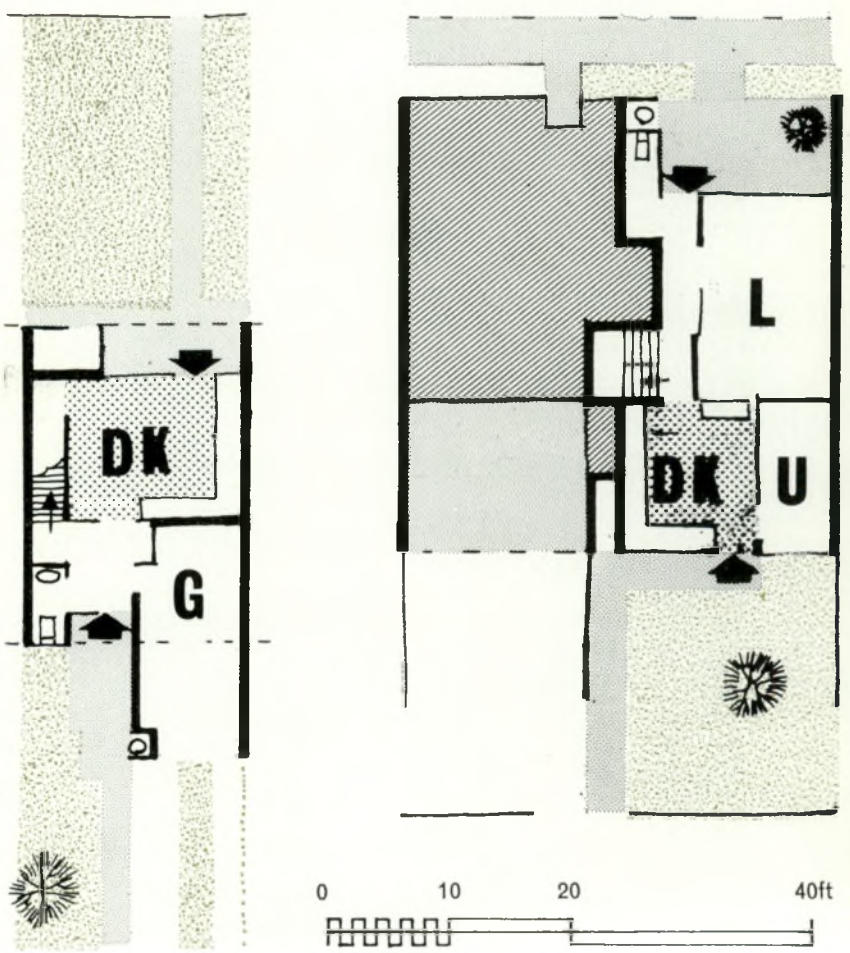
Architect: Anthony B. Davies, FRIBA, AA DIPL
Former Chief Architect/Planner

Closely grouped, at a comparatively high density, with generous provision for cars. Almost all the types of house group previously described in this bulletin are incorporated here, with modifications. Several types of service cul-de-sac can be identified, as well as garage courts, pedestrian forecourts and passageways.

Gardens are placed to the south or west sides of houses, whether on the path side or the cul-de-sac or court side. The main path system is widened to take in a children's paved play area.

These typical house plans are for 3 to 6 people.





7 Some current traffic separation schemes

7 Some current traffic separation schemes

Common key to layout of schemes

2 Warley, Essex

Brentwood Urban District Council

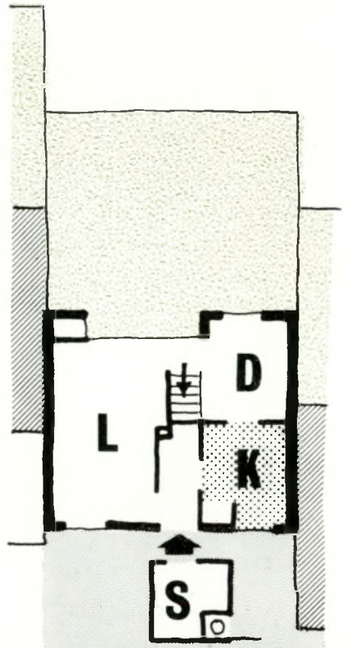
Architect: Clifford Culpin and Partners

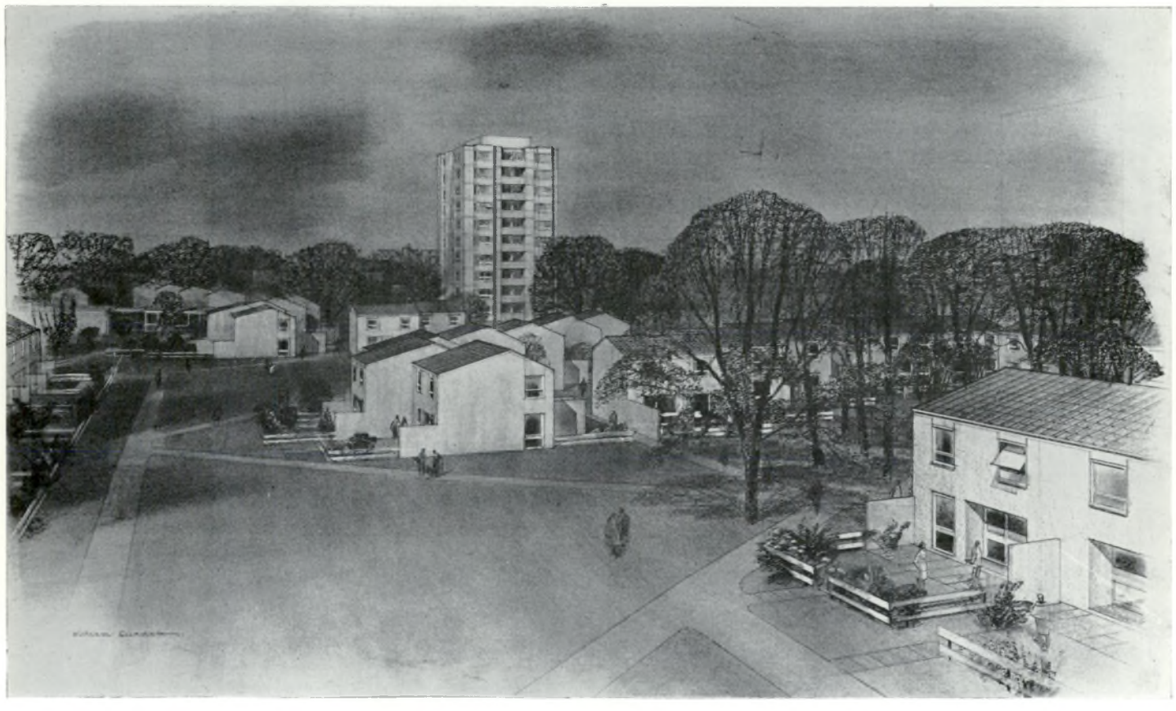
The layout is enclosed by a perimeter road. The relation of house to car is differently treated in different groups. Some houses have garages attached; others open on to pedestrian forecourts with grouped garages at short distances.

The site has a very gradual fall to the north. Long, straight terraces combine with less formal staggered groups. Gardens are always enclosed.

The sketch shows a view facing north, with 3-bedroom houses looking on to the open space that flows through the centre of the scheme. In the background is a 14-storey block of 2-bedroom flats.

This typical house plan is for 5 people.





7 Some current traffic separation schemes

7 Some current traffic separation schemes

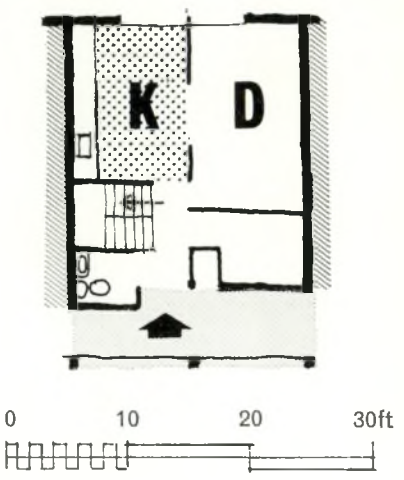
3 Bedmond Green, Hertfordshire

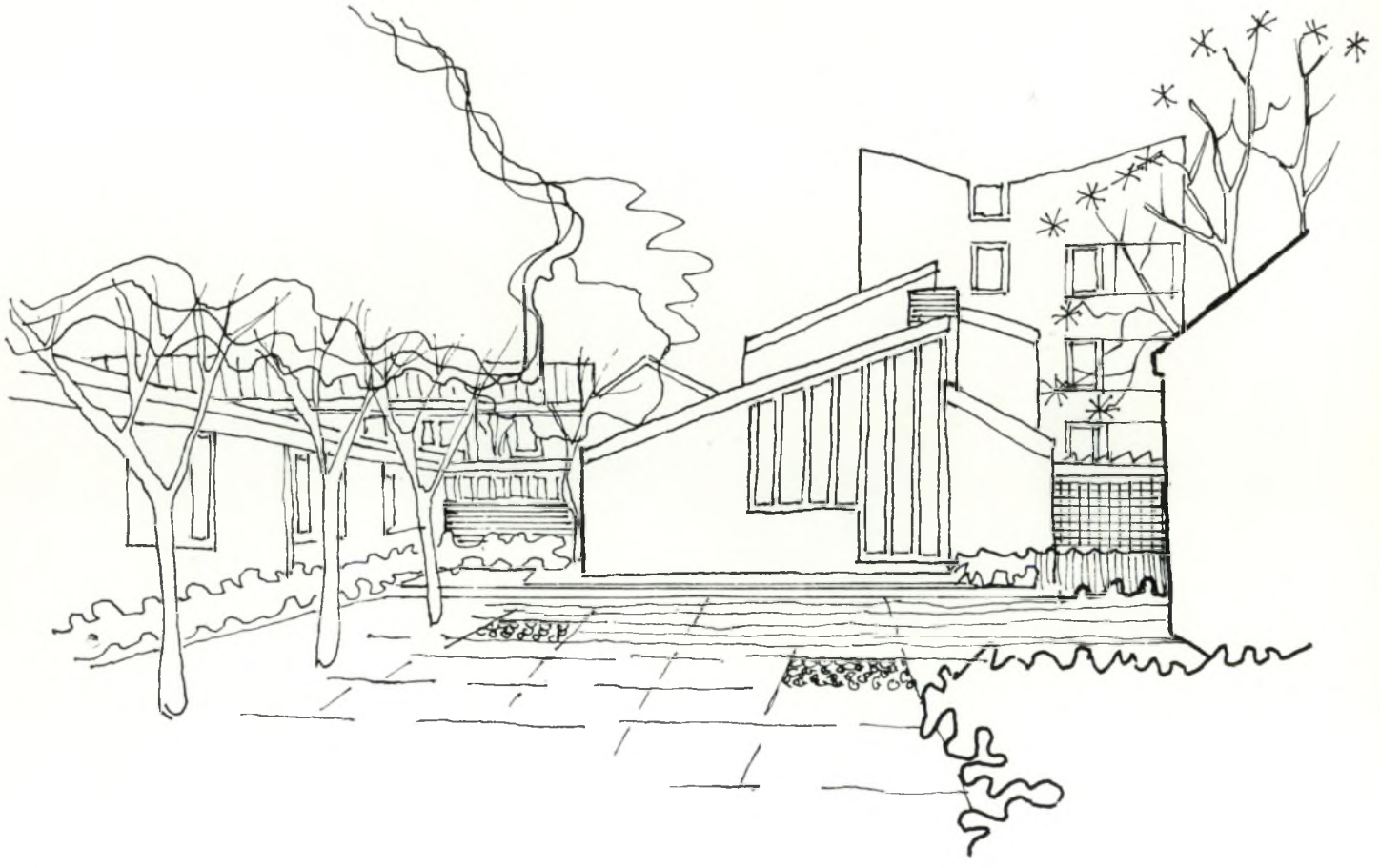
Watford Rural District Council
Architect: Michael Calthrop, ARIBA

The winning design in the Watford Rural District Council Housing Competition, 1962. A one-way distributor road encircles the site, with rear service from short culs-de-sac or garage courts. The central common green breaks off into smaller areas individual to each house group, each containing a miniature paved square as a play space.

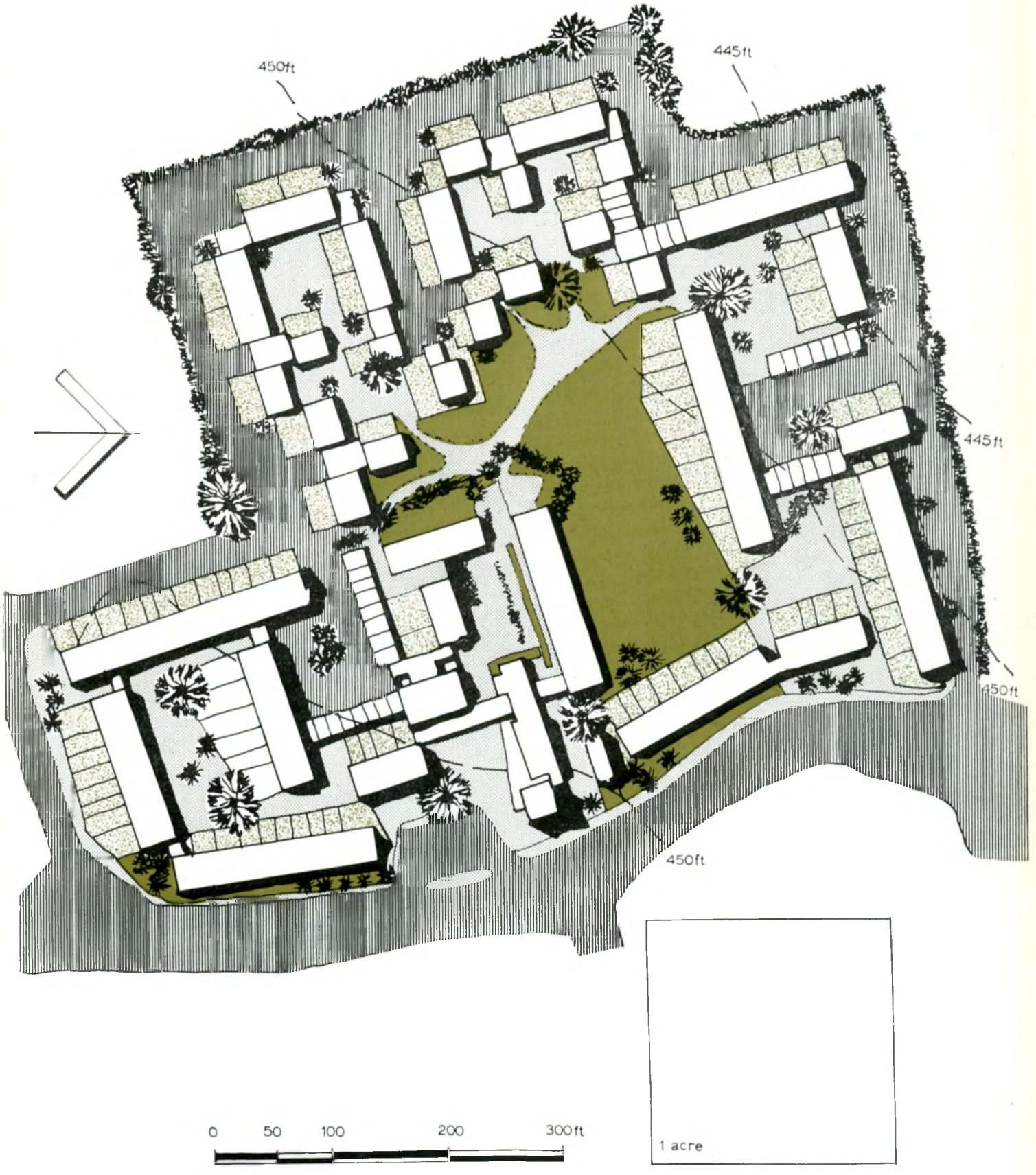
All living-rooms and gardens face south or west. There is a variety of 2-storey houses, and one 4-storey point block of flats provides a focal point. This typical house plan is for 6 to 7 people. The living room is on the upper floor.

The sketch shows the view into one of the courtyards with, on left, an old people's common room linked to flatlets. Beyond is the 4-storey point block.





7 Some current traffic separation schemes



7 Some current traffic separation schemes

4 Fieldend, Twickenham

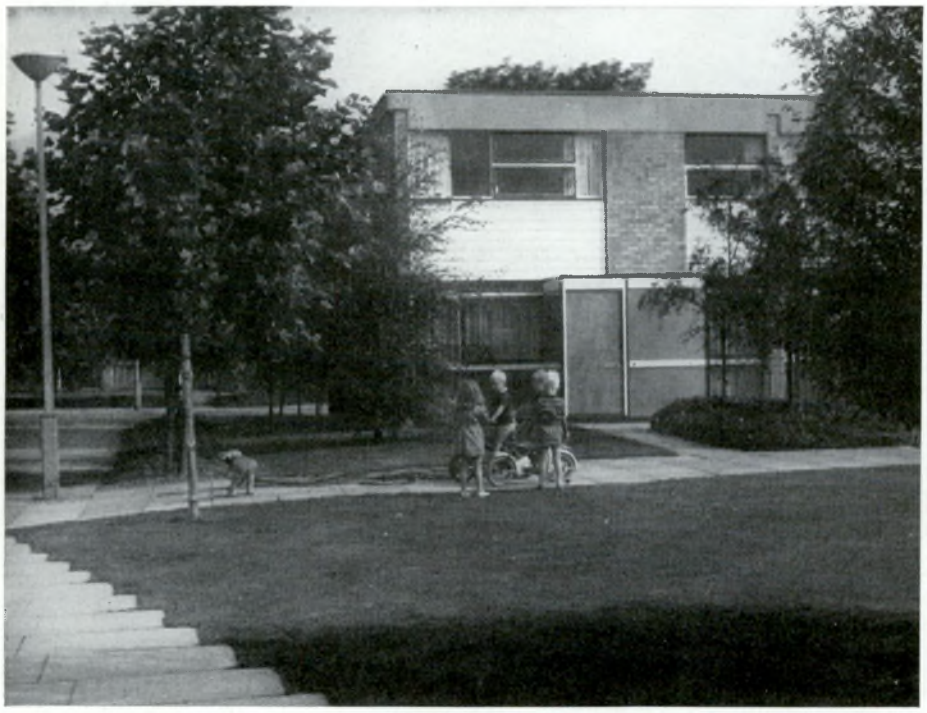
Span Developments Ltd

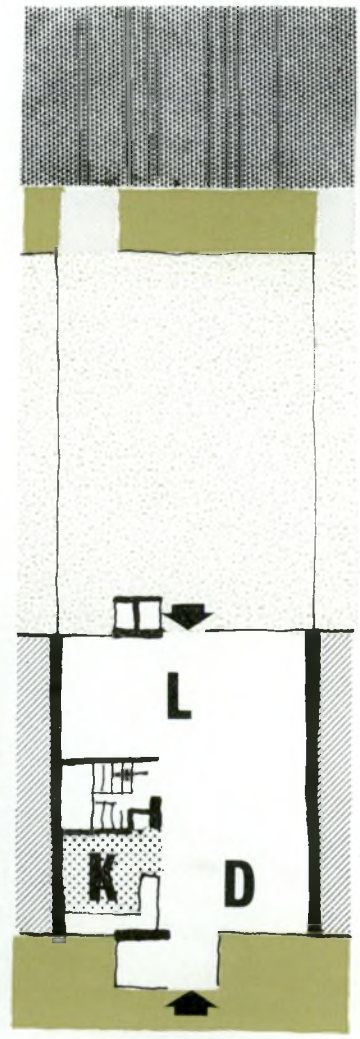
Architect: Eric Lyons, OBE, FRIBA

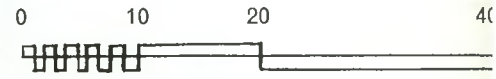
A small suburban scheme of 51 houses, most of them facing inwards to a landscaped green crossed by paved paths. The main part of the site is set well back from the distributor road (Waldegrave Park).

Entry is by a single cul-de-sac with a visitors' car park at the head. This continues into a perimeter service road providing rear access to dwellings. Garages, one for each house, are grouped mainly on the boundary of the site, along the service road.

This typical house plan is for 5 people.







7 Some current traffic separation schemes

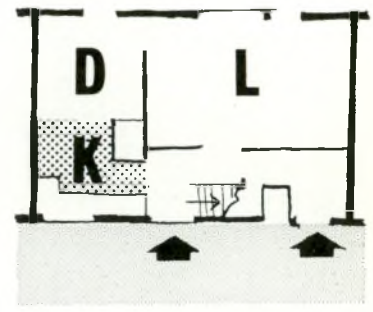
5 Andover, Greater London Council Housing Scheme, Area 12

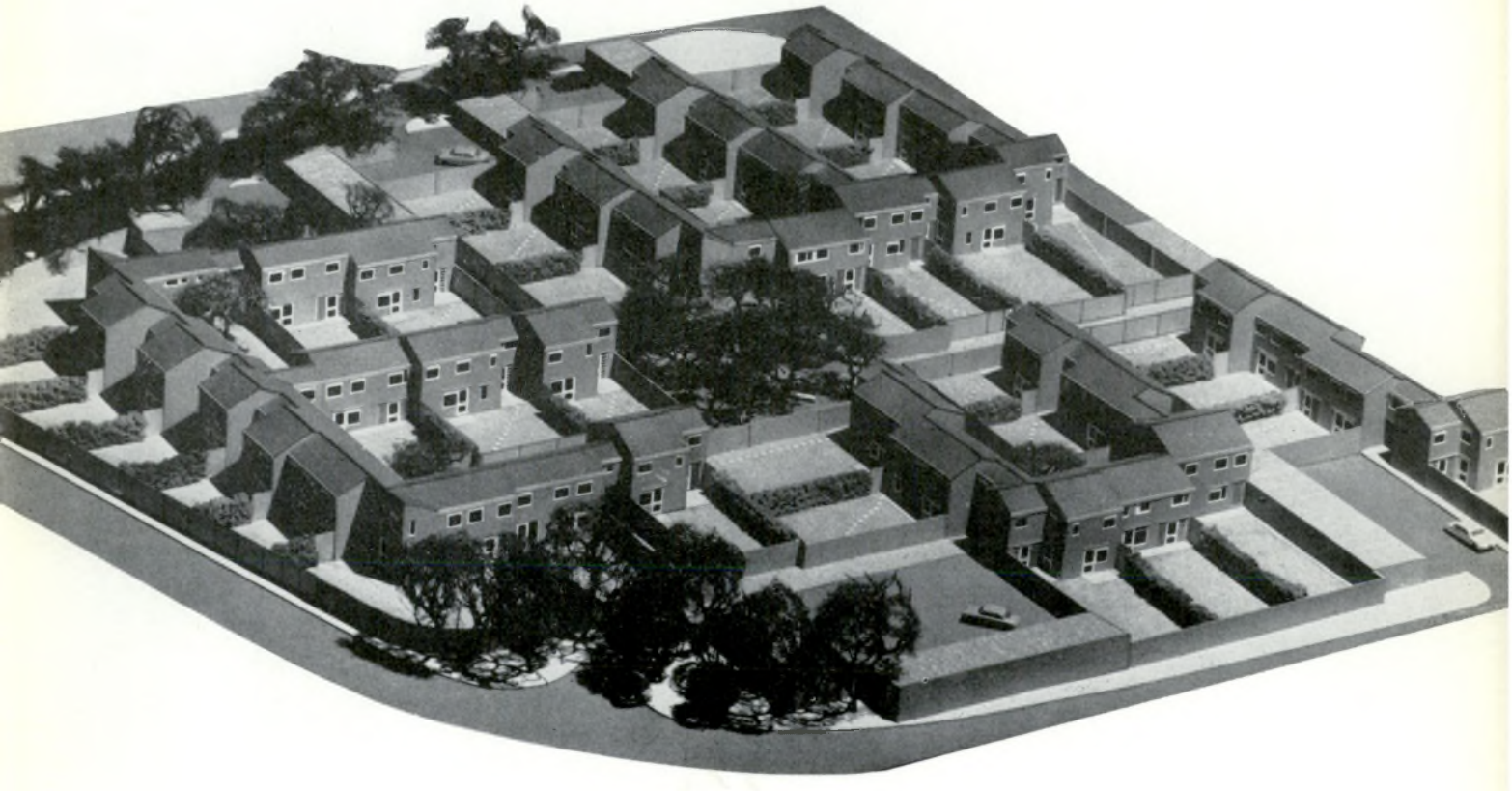
Greater London Council Housing Scheme, Area 12

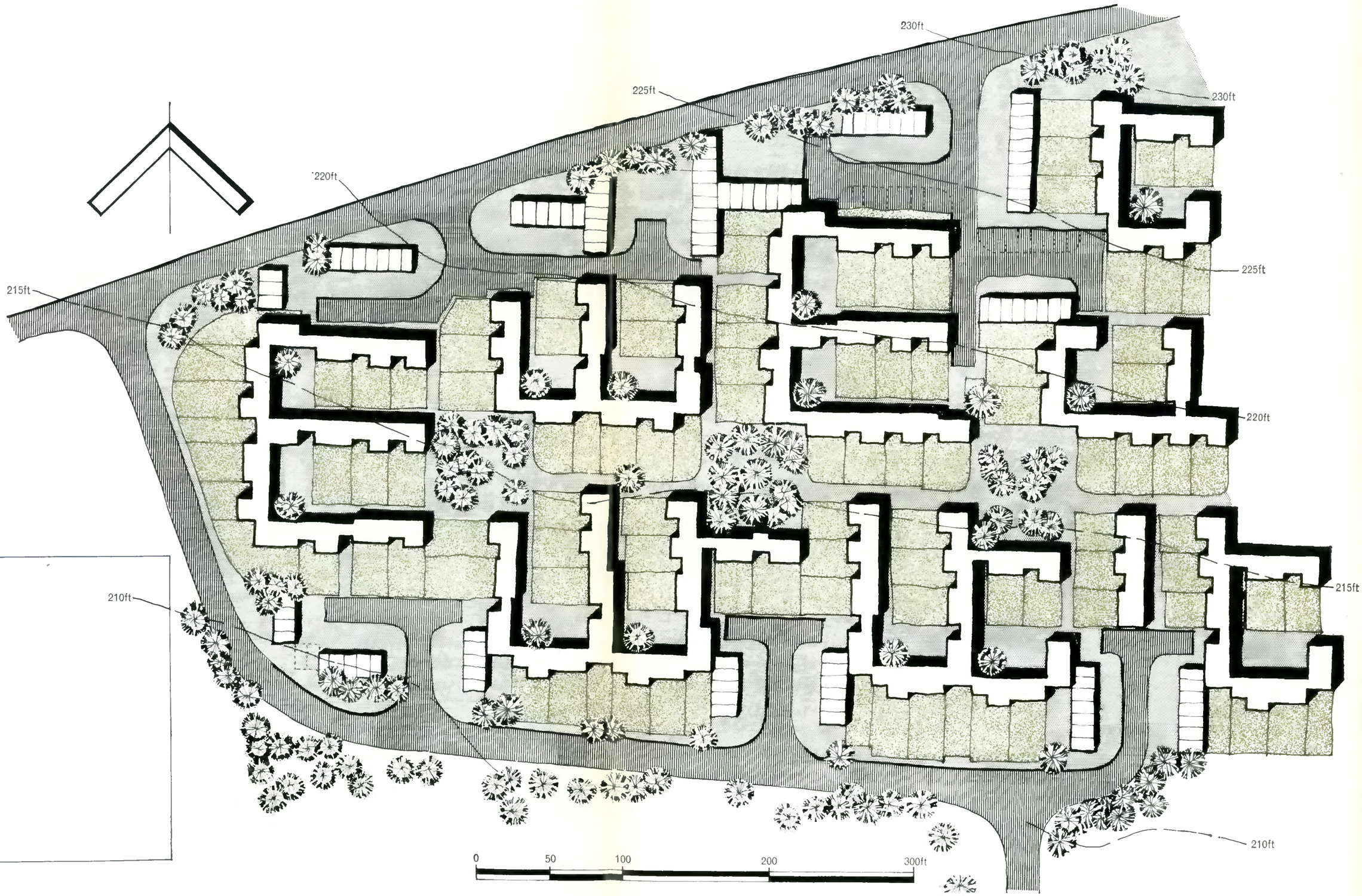
Architect: Hubert Bennett, FRIBA
Architect to the Council

This layout, the western part of which is shown in the model below, uses a variant of the pedestrian forecourt method of grouping. It consists of a system of closes extending laterally from short culs-de-sac off the perimeter distributor road. 'Blind side' houses are entered from these courts or from passageway paths. Long private gardens enclosed by 6 ft. high fences save the maintenance of public open space. This is confined to the main spine path system, widened at intervals to form play areas.

This typical house plan is for 5 people.







7 Some current traffic separation schemes

6 Huntingdon, Greater London Council Housing Scheme, Stage 10

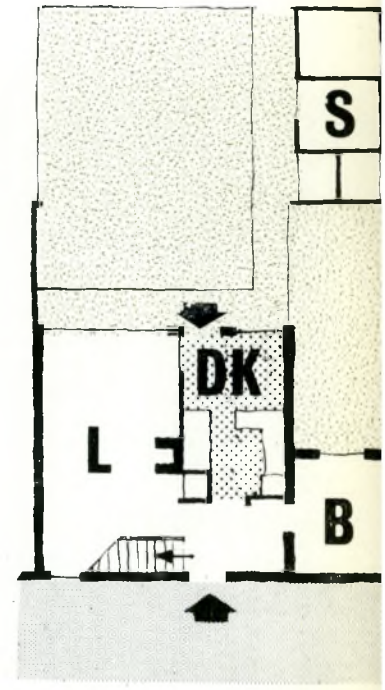
Greater London Council Housing Scheme, Stage 10.

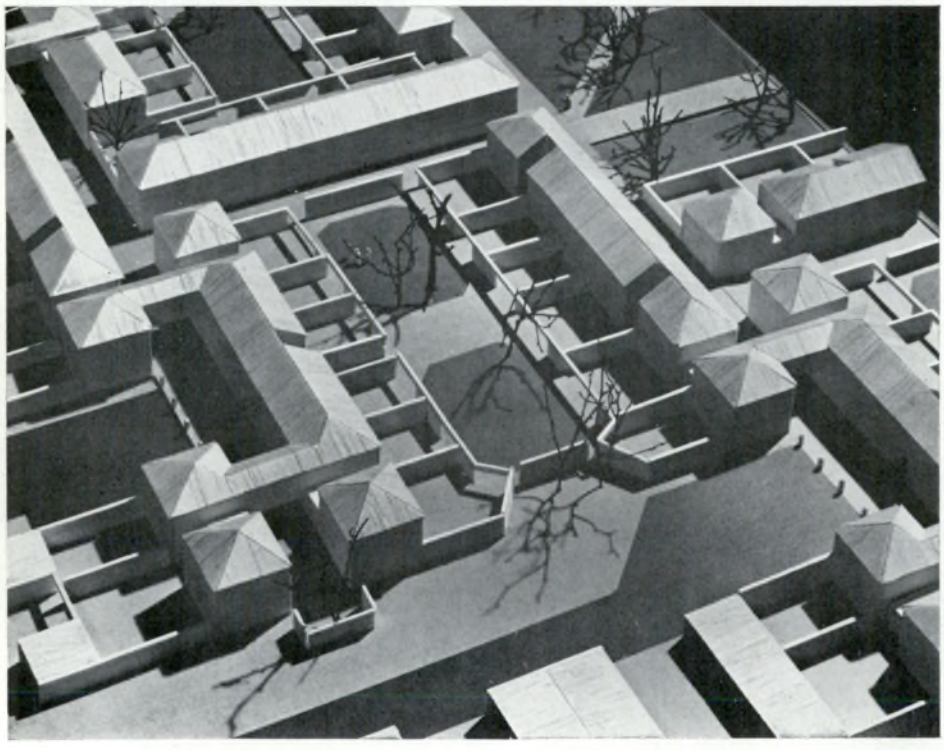
Architect: Hubert Bennett, FRIBA
Architect to the Council

The 156 houses are arranged around six courts. Each court encloses a small area of landscaped public open space and the whole scheme is centred on a public square.

Houses are entered from an internal pattern of pedestrian streets which lead through the scheme to schools and a recreation area without crossing a traffic route.

This typical house plan is for 6 people.





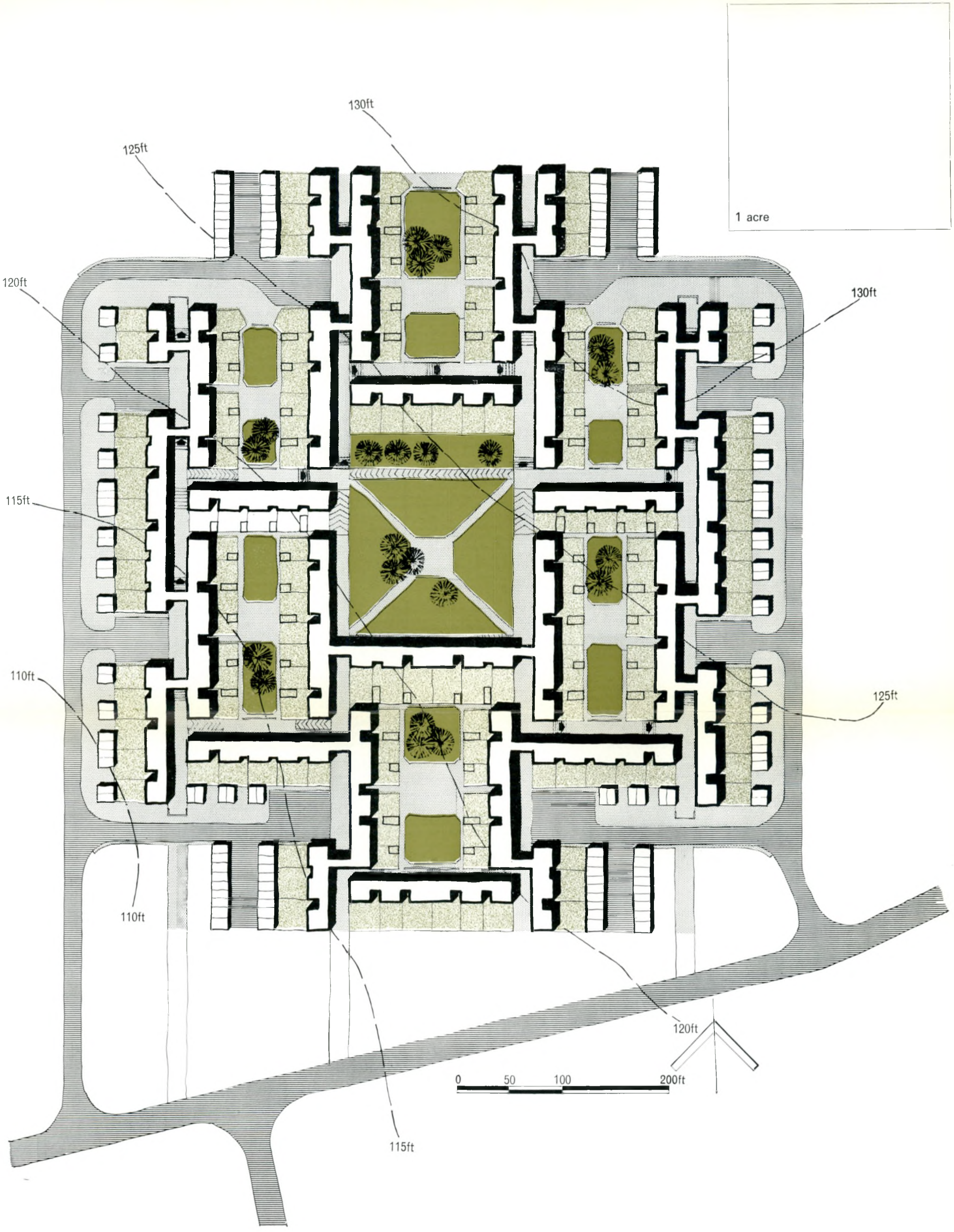

1 acre
130ft
125ft
120ft
130ft
115ft
110ft
125ft
110ft
120ft
115ft
0
50
100
200ft

Table of comparisons between schemes

Scheme:	1 Laindon	2 Warley	3 Bedmond	4 Fieldend	5 Andover	6 Huntingdon
Number of dwellings	951	404	132	51	105	156
Site area (net) in acres	42·8	25·6	8	5·1	6·7	10
Density dwellings per acre	22·2	15	16	10	15·6	15·6
persons per acre	96	44	66	44	69	59
Ratio of dwellings to places for owners' cars	1:1	1:1	1:0·6	1:0·9	1:1	1:1
Number of garages	585	332	28	49	105	140
Percentage of built-in garages	19	50	37	nil	10	30
Extra car places for visitors	152	68	20	37	52	33

Developers and designers of the schemes illustrated

The schemes illustrated in the bulletin have been designed for the following developers, public and private. Except where otherwise mentioned, the designers are the Architect's Department of the developer.

4 Eric Lyons and Partners for Span Developments Ltd.

5 Beeston and Stapleford Urban District Council.

6 Stevenage Development Corporation.

7 Building Design Partnership for M. Howard (Mitchum) Ltd.

8 Cumbernauld Development Corporation.

9 Richard E. Moira and Betty L. C. Moira for Lerwick Burgh Council.

10 Cwmbran Development Corporation.

11 Stevenage Development Corporation.

22, 23 Stevenage Development Corporation.

24 Clifford Culpin and Partners for Basildon Development Corporation.

25 Covell, Matthews and Partners for Holland and Hannen and Cubitts.

26 Cumbernauld Development Corporation.

28 Stevenage Development Corporation.

29 Clifford Culpin and Partners for Basildon Development Corporation.

30 Ministry of Housing and Local Government.

31 Gordon Stephenson for Wrexham Borough Council.

32 Eric Lyons and Partners for Span Developments Ltd.

33 Corby Development Corporation.

34 Architects' Design Group for Fox Hill Development Ltd.

35 Clifford Culpin and Partners for Harlow Development Corporation.

36 Basildon Development Corporation.

37, 39 Building Design Partnership for M. Howard (Mitchum) Ltd.

38 Morton, Lupton and Smith for Townmaker Developments Ltd.

41 Cumbernauld Development Corporation.

42 Research and Development Group, Ministry of Housing and Local Government for West Ham County Borough Council.

43 Morton, Lupton and Smith for Townmaker Developments Ltd.

44 Clifford Culpin and Partners for Brentwood Urban District Council.

45 Chamberlin, Powell and Bon for London Borough of Greenwich.

46 Greater London Council for Haverhill Town Development Scheme.

47 Clifford Culpin and Partners for Harlow Development Corporation.

48 Greater London Council.

49 Bracknell Development Corporation.

50 Greater London Council for Andover Town Development Scheme.

52 Director General of Works, War Office, and subsequently Chief Architect, Ministry of Public Building and Works.

53 Cwmbran Development Corporation.

54 Greater London Council.

55 Greater London Council for Andover Town Development Scheme.

56 Greater London Council.

57 Edinburgh University Housing Research Unit for East Lothian County Council.

58 Sheffield Corporation.

59 Cumbernauld Development Corporation.

60 Basingstoke Development Group.

61 Greater London Council.

63, 64 Cumbernauld Development Corporation.

65 Wheeler and Sproson for Burntisland Burgh Council.

66 Edinburgh University Housing Research Unit for East Lothian County Council.

67 Basildon Development Corporation.

68 Greater London Council.

69 Cumbernauld Development Corporation.

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Clifford Culpin & Partners (Warley photograph in 'current layouts' section).

Greater London Council (Andover and Huntingdon photographs in 'current layouts' section).

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