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THE NATURE AND LOCATION OF POST-
WAR HOUSING DEVELOPMENT IN THE
COALFIELD AREA OF COUNTY DURHAM

P J Shoebridge B A

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Hong Kong, May, 1969

THE NATURE AND LOCATION OF POST-WAR HOUSING DEVELOPMENT
IN THE COALFIELD AREA OF COUNTY DURHAM

A Thesis Submitted in Canditure for the Degree of Doctor of
Philosophy
of the University of Durham
by Peter John Shoebridge, B A

DECLARATION

I declare that this dissertation is the result of my
own independent investigation My indebtedness to other
sources is fully acknowledged in the bibliography and footnotes

The dissertation has not previously been accepted in
substance for any degree, and is not being concurrently
submitted in canditure for any other degree



P J Shoebridge

S U M M A R Y

This dissertation does not approach the study of housing in a conventional manner. It attempts to synthesise the various aspects and trends of housing development, in a study of changing spatial and temporal relationships between settlements. The distinct settlement systems in the area are undergoing change against a background of economic difficulty and readjustment. The economic problems and the nineteenth century industrial heritage have resulted in modern processes of development which are producing distinctive patterns. These patterns are examined in the light of current investigations elsewhere in Europe and North America.

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CHAPTER I INTRODUCTION

The Scope of the Study

This study represents an investigation into various aspects of post-war housing development in the Coalfield area of County Durham, it involves a consideration of patterns and trends over space and time. Aspects of the supply and demand side are covered in an attempt to link patterns of house building in the public and private sectors, with the industry which brought them into being.

The twenty-nine local authorities which comprise the Survey Area are all situated within the geographical County of Durham. First of all there are the authorities which lie on the southern banks of the River Tyne, plus Sunderland at the mouth of the River, and secondly, there are the authorities which are situated entirely within the coalfield area, thereby excluding the Rural Districts of Sedgfield and Barnard Castle, in which only part of the area is within the coalfield. Also, in the case of Sedgfield, the area is strongly influenced by the Teesside-Darlington group of settlements, and this study is concerned primarily with the urban centres of Lyneside-Hearside and their tributary coal-mining districts. The total population of the Survey Area (1966) is 1,112,610, and the populations of individual authorities range from 2,900 in the case of Tow Law U D to 187,000 in the case of Sunderland C B. The median value is 25,300.

The nature of the Survey Area with its specialised economic history and the problems of the modern period, have a number of ramifications with regard to the expansion of settlement. Two settlement systems arose to satisfy the needs of the different

industrial economies, on the one hand the network of mining communities which resulted from the joint source exploitation of mineral wealth, and on the other, the riverside industrial towns which grew up as centres of shipbuilding, allied engineering trades and coal exporting. The two existed separately except for the economic bond of the coal trade. Modern industrial and technological changes have brought with them structural difficulties in both economies. In both cases there is also the problem created by an unfavourable urban environment and relatively inflexible settlement pattern seemingly ill-suited to the creation of healthy and attractive communities. Modern house building activity has been heavily dependent upon investment by public authorities, and in this respect regional planning policies and government aid are very important. In addition to the "guided" aspect of regional development which impinges on the provision of housing, there is also the "spontaneous" element. This introduces the question of the degree of relevance of processes and trends detected in recent urban expansion in more prosperous regions. However, any development will be conditioned by the pre-existing settlement pattern, and it has been stressed(1) that, "gradients, sectors, and indices of linkages we observe to-day are measurements of current activities cast in a mould built over a long period of time." Hence before attempting a detailed analysis of the housing programme, the settlement framework which existed in 1946, is considered. This is followed by an examination of the planning proposals and recommendations made at the end of the Second World War. For the first time the need was felt to consciously guide the distribution of new residential accommodation in relation to workplaces, service centres and suitable nuclei within the settlement framework. In

retrospect, therefore, it should be possible to examine the degree of success of various planning policies in the housing field

The provision of housing is examined in terms of a graphical analysis of housing programmes at local authority, district and regional levels, and also in terms of the physical distribution on the ground. Stress is laid upon geographical variations and trends over time. As Emrys Jones points out(2), "At each stage (in the historical development of a settlement) space relations change, motives change, values change the entire geographical circumstance changes". The situation within the Survey Area is also related to the national picture, and the position during the inter-war year, 1919-1939, a period of exactly the same length as that under consideration (1946-1966)

The pattern of residential expansion within a regional network of settlements is rarely examined in conjunction with the industry responsible for its physical construction, though the two have been linked in the historical perspectives of townscapes undertaken by Dyos and Beresford(3). Within the Survey Area, and the North-East region as a whole, the nature of the construction industry is examined in terms of its organisation, the scale of employment, the areas and fields of operations of firms, and changes witnessed over time. There is also an attempt to consider the relationship between direct labour council building and contract building by private firms for local authorities, and the effect of this on the nature of private speculative building.

In the field of house building not all the interrelated aspects could be followed up, due to certain problems in obtaining information. This applied particularly to data on land values and land sales, but

also in certain cases, to information collected from individual authorities on the detailed planning application background, and aspects of private house building. In such cases, detailed case studies were undertaken where data was available and then the general picture was completed by field investigations. In view of the lack of information on land values, house prices were used to provide insight into the type of private housing in different localities. Private house building, despite its much smaller scale is able to reflect "spontaneous" aspects of development and the free movement of that section of the population which possesses the ability to express residential preferences within the range of alternatives which the area presents. Researchers elsewhere have pointed to the greatly differing mobility patterns and increased social segregation which are having an impact upon urban expansion(4). To provide some insight into certain aspects of private residential developments questionnaire surveys were undertaken in four major areas of private building, these were linked with similar surveys carried out within the Survey Area(5), and surveys of residential migration within the North-East. In this way the mechanism of migration could be examined in relation to the socio-economic make-up of the families concerned, and their places of work and previous residence.

Hence an attempt has been made to investigate various aspects of housing development by means of a dynamic approach, which emphasises the changes in spatial relationships and urban linkages, thereby giving an overall impression of the structures which are

evolving, and the rôle played by housing in the modernisation of the urban environment and settlement pattern. Infinite links exist between the various elements which go to make up the residential development process. Bearing in mind "that however much he may isolate individual elements and deal with them singly, the geographer must end with a totality of elements,"(6) it should be possible to move from the analysis and interpretation of physical patterns of housing development to the formulation of a conceptual model of its role within the general process of urban expansion. In this way comparisons can be drawn with the general theories and findings relating to the modern expansion and processes of change in city regions.

Statistical Sources

In the collection of data a multitude of different sources were tapped and a number of problems were encountered. The study relies heavily upon statistical analysis, but it is necessary to point out that in many respects housing statistics lend themselves best to relatively straightforward methods of analysis. It was felt that most of the more sophisticated techniques now in vogue were not really relevant. One problem is that with housing statistics of this kind an infinite number of tables can be compiled and analysed, so that each one provides a little more information about the total situation. Therefore, it has been necessary to focus attention on those tables and methods which bring out the more relevant trends. For figures relating to housing in the public sector, variations may reflect differences in geographical circumstances, but there is no direct relationship between supply

and demand, much depends upon the initiative shown by local councils, the individual personalities involved, plus a host of other intangibles, along with the political considerations at local, regional and national levels

The scope of the study was circumscribed in some parts by the availability of information. At the national level statistics were available from such government departments as the Ministry of Housing and Local Government, and the Ministry of Public Building and Works. The former publishes construction figures for every local authority in their "Quarterly Housing Returns" and in "Housing Statistics"(7). Further background information was obtained from the Census Reports(8) and from various other Stationary Office publications.

At the regional level data was collected from a variety of agencies, including the regional offices of the Ministry of Housing and the Ministry of Public Building and Works in Newcastle. Access to surveys, reports and information on certain aspects of the planning machinery was possible at the offices of the County Planning Department in Durham City, and similar visits were made to the Planning Offices in the County Boroughs of Gateshead, South Shields and Sunderland. In the field of private enterprise, the degree of co-operation varied greatly, fortunately in the case of the largest northern building firm (W. Leech Ltd,) the response was extremely good, and details of their numerous housing schemes were made available, as were figures relating to the previous place of residence of movers into new houses. It was a fortunate coincidence that the director of one of the major firms in the Survey Area, Mr L G Pearson of G M Pearson Ltd, (Hetton le Hole) was President of the National

Federation of Building Trades Employers for 1966. He was very helpful in discussing numerous aspects of the building and construction industry in the region at some length. In addition, at the Regional Office of the above-mentioned organisation, the Director Mr H E Wake was able to provide details of the size distribution of firms operating in the Survey Area. Further information on private building operations was obtained from various Building Societies and Estate Agents. Comparisons with the national situation with regard to house prices was accomplished by using tables published in the Occasional Papers of the Co-operative Permanent Building Society. A survey of asking prices for re-sales of post-war houses was carried out using information from the property columns of local newspapers (see Chapter VIII).

At the local authority level a large amount of material was obtained in the course of several visits to each authority. In terms of the amount of detail and usefulness of information there were wide variations between the different authorities. For council building it was often difficult to obtain information on direct labour departments. In the field of private building some authorities possessed extremely detailed records of planning applications, the dates of construction, type of house, location and builder, while in other cases records were almost non-existent, and so comparable figures had to be ascertained from a combination of approaches involving map evidence, field surveys and contacts with the builders, residents, Estate Agents and anyone else concerned with house building in that district. A major problem stems from the fact that there is no standard procedure for the keeping of records and this produces a variety of approaches, which depend to a large

extent upon the general efficiency of the local authority, or the department, or even the individual concerned, the most accurate figures were generally obtained from the Rents Officers. Fortunately useful information was usually available in those local authorities where the scale of building was greatest.

Field surveys were undertaken to study the housing developments on the ground and supplement the figures obtained from map evidence and housing records. Furthermore, a Questionnaire Survey was carried out in order to illustrate certain features of the movement of population into modern private housing developments, in particular paying attention to the socio-economic groups involved, their age structure, previous home and workplace.

The Relevance of a Study of Housing Development

Housing development forms a major element of the continuing urbanisation process in a region experiencing considerable economic difficulties. Through an analysis of housing development it should be possible to provide some insight into the mechanism whereby two once clearly-defined settlement systems are being drawn into closer interaction with one another.

During the post-war years a conscious effort has been made to guide the development of the settlement pattern, but a number of questions need to be asked concerning the overall aims of the planning policies, the extent to which these are being attained, and the divergence which results from unforeseen and apparently "spontaneous" trends. In north-eastern architectural circles the idea of a "linear city" has been postulated, this envisages that major urban growth points lie along the central axis provided by

the A 1-Durham Motorway and main railway line, and that these centres are extending towards one another to eventually link Tyneside with Darlington-Teesside. This sort of thinking and the increasing interdependence between the settlement systems of the mining districts and riverside industrial zones, indicate that settlement problems can no longer be examined in purely local terms. Within County Durham, however, in some of the greatest problem areas, there remains a residue of population which is fiercely conservative and clings to its traditions and home locality.

In summary, this study attempts a dynamic approach to the study of housing development in which it is examined against the background of a declining heavy industry-based economy, also an effort is made to view housing in its wider role as a major component of the modern "explosion" of the built-up area.

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CHAPTER IIThe Settlement Pattern in 1946

The main purpose of this thesis is to consider the mechanism of housing development in the extension of the settlement pattern over the years 1946-66. In order to do this the main features of the Survey Area's distinctive settlement pattern must be outlined. There exists a basic division between the port conurbations of Tyneside-Jearside and the colliery districts which occupy the hinterland area, although with the increasing influence of the former, there is a growing fringe belt within the mining area, where the settlements come within the conurbation influence, while remaining separate from the contiguous built-up area.

Whereas the colliery districts experienced their greatest transformation in the early railway period, the major industrial developments in the port conurbations came after 1850, with the rapid growth of shipbuilding and allied engineering industries. The process of mining colonisation involved a succession of phases running one into another. The residues of these are seen to-day in the settlement make-up, different combinations of elements differentiate one district from another. Areas of greatest complexity are the early mining areas in the North-West and Middle-ear(1). Individual settlements experienced varying numbers of cycles of activity dependent upon the opening or closing of pits, and few conform to the straightforward cycle of mining development running from colonisation through maturity to gradual decay and eventual abandonment. The succession of mining cycles and the sinking of numerous, often short-lived collieries, have combined with the dissected topography to give a large population distributed between numerous settlements.

These frequently form urban clusters around the major collieries, which are connected by ribbons of terraced houses fronting the road

The nature of the settlement pattern is best illustrated by an examination of three areas - the North-West, the margins of the East Durham Plateau and the South-East. The first area possesses an exceptionally straggling network of settlement on the plateau area between the Derwent and Team Valleys (rising to 700 - 800 feet). Factors behind this include the long history of mining, the large number of small pits exploiting thin and shallow seams of rich coal, and the dissected nature of the topography. An equally straggling settlement pattern was formed in a different way along the margins of the East Durham Plateau. Ribbons of housing along the main roads from Penshaw to Easington Lane weld partially nucleated settlements into a complex chain. They were erected during the latter part of the 19th Century, due to the activity of speculative builders along the tram route which ran from Penshaw through Houghton and Hetton to Easington Lane, with a branch to Fence House(2)

By contrast, over much of South-East Durham the mining communities are large and compact, due to their later growth and the larger size of the collieries. Murton, Easington Colliery, Shotton Colliery and Horden are in this category, and have populations ranging from six to twelve thousand. Large population concentrations also developed in the North-West with the advent of improved deep mining techniques. Stanley, Annfield Plain and Leadgate are situated on the high interfluves (> 700 feet) where the complete range of seams could be exploited.

Elements of the early rural settlement may be embedded in mining settlements. The agricultural core is clearly apparent in Witton Gilbert and Great Lumley, while West Auckland contains a street green village. A number of sizeable villages including Ryton, Whickham and Lanchester have retained a rural aspect, despite the acquisition of colliery extensions. In other cases agricultural and mining settlements are completely separate. In the south-east the two are close together, but the agricultural villages have remained curiously intact, as for example with Shotton and Shotton Colliery. Easington and Easington Colliery.

For developments of the mining era, the paramount consideration in the siting of housing was immediate proximity to the pit-head, and there is frequently a striking lack of relief control. This is exhibited by colliery housing in Billy Row, Craghead, Herburn Hill and Houghton(3). The mining rows were generally built in blocks around the pithead, or along existing roads. The ragged shapes of the resulting settlements are, according to Smailes(4) often determined by the old field boundaries and conditions of acquisition of land from agriculture.

The number of cycles of mining activity experienced by any settlement helps to explain the degree of homogeneity of its housing. The house types range from the single-storey roughstone cottages of the early period, to the later by-law brick terraces. By the modern period many of the earlier brick built houses had been demolished(5), they had been poorly constructed and proved much less enduring than the stone-built houses of the North-east. Inter-war housing generally falls into a distinct category, due to the fact it was provided by a new agency in the form of local councils, though during this period

modern colliery rows were still being erected in the expanding South-east. The communities which gradually acquired greatest size inevitably developed a certain degree of nodality and began to act as service centres, though this function tends to be poorly developed.

The position within the mining industry, and in the communities which served it, was fluid during the 19th century, but since the First World War economic difficulties and the general contraction of the industry, resulted in the dynamism being lost, and so problems which were rooted in the past came to the fore. Even in the heyday of mining when collieries were continually being opened up, with new settlements growing up alongside them, and in spite of the large scale internal population movements which resulted(6), there was a surplus of settlements over requirements, because some persisted after the local collieries had closed. The rash of closures in the present century has left ever larger numbers of settlements without local sources of employment. The majority have been retained in the modern period of welfare state conditions and improved communications, though in the west their populations have been reduced by migration, which has also produced a strong bias towards the older age groups among those whose remain. During the 20th century the general rigidity of the settlement pattern and its unsuitability to modern forms of economic development, have been exposed. The problem is not helped by the fragmentation into numerous clusters and linear settlements and the poor nodality of even the largest, together with the hilly topography, these factors help to explain the lack of major towns outside the conurbations. Planning policy in the post-war period has been aimed at gathering the scattered population into a smaller number of suitably located settlements which would be

more convenient socially, and would also provide a pool of labour for the development of new industries. There is a shortage of good nuclei for this purpose and certain authorities have allowed the expansion of settlements which do not provide suitable conditions(7)

The Port Conurbations

The port conurbations are the products of the fusion of numbers of once-separate industrial communities. In general, the pattern is one of riverside industry backed by 19th century terraces in dense grids, the "flatted terraces" peculiar to Tyneside produce some of the highest urban population densities in Britain. The various settlement nuclei and towns are linked together by the looser textured inter-war housing estates. The distinct communities which make up the conurbations have varied backgrounds. For instance, there are the major industrial and commercial centres, Sunderland, Gateshead and South Shields, the major industrial satellites of Hebburn, Jarrow, Southwick, and also the small industrial villages of Bill Quay, Pelaw, South Hylton, finally, there are also the agricultural and mining villages which have been caught up within the urban sprawl. Westoe and Monkton are in the first class, Heworth Colliery is in the second. Whereas inter-war extensions brought about the fusion of these distinct communities, post-war housing developments have pushed outwards on a united front. Over the period 1946-66 the built-up area in residential use was extended by between 30 and 40%, though the total population has been static. This serves to indicate the severe overcrowding which existed before 1946.

There remains a strong sense of "place" in the separate communities of Lyneside and Wearside, a feature which is also very noticeable in the mining districts, even when the communities are physically linked. For this reason, plus the nature of the settlements on the ground, it may be suggested that the overall pattern is of an "urban cluster" form, in which numerous clearly-defined cells make up the urban areas and groupings within the Survey Area. The implications of this will become apparent later (see P) with the detailed analysis of the housing developments in relation to the settlement pattern.

The Provision of Housing Before 1914

Studies of city development during the Victorian period(8) have shown that numerous small building firms were each responsible for the erection of several houses at a time, this fact is belied by the appearance of the long terraces of seemingly identical houses. The construction was financed by a varied selection of speculators, property investors, or in some cases by the builders themselves, and the houses were then rented out. In the Durham Coalfield the situation was more specialised due to the fact that in many districts the colliery companies fulfilled this role, and so for much of the population the companies were both employers and landlords. According to Madur(9) there was frequently a large proportion of vacant dwellings (in the order of 10%) in any settlement, which both aided and also reflected the high level of population movement within the coalfield.

Building Levels, 1853-1913

The work of Kenwood(10) has indicated the presence of two building cycles in 1853-80 and 1890-1913, separated by a low in the 1880's. The first cycle was associated with general economic expansion, which in the Survey Area focussed on the coking coal districts in the west. This cycle was brought to an end by the downswing in economic activity of the 1880's. The second and major cycle was associated with a period of renewed prosperity in the coal trade.

Kenwood concluded that house building was directly dependent upon economic activity in a general sense, though in detail the situation was blurred by the different cycles experienced in different settlements. For instance, Gateshead was out of phase with Jarrow and South Shields.

The Modern Heritage of Building Prior to 1914

From an analysis of the dwelling stock in 1966 a number of points can be deduced concerning the contribution of house building prior to 1914. Within the Survey Area 40% of the dwelling stock had been built before 1914, although throughout the west(11) the figure rose to over 50%, with over 60% in Shildon and Bishop Auckland. The South-east (Seaham, Durham R D, Easington) was at the opposite end of the scale with proportion below 30%.

The west was also a relative stronghold of the tenure categories of privately rented housing and colliery houses. For the Survey Area, the proportion of the housing stock owned by the National Coal Board was a mere 6%, this represents the remnants of the 19th century company owned houses. The proportion was above

10% in the west, with a peak of 17.4% in Stanley. Another concentration existed in the south-east with levels between 11-14%. In the field of privately rented accommodation the major concentration existed on Tyneside where it formed 41% and 33% of the totals for Gateshead and South Shields respectively. The south-west formed a secondary concentration with a figure of 20%. Many of the old colliery houses had by 1966 either been demolished(12) or sold to the residents. For instance, structurally sound houses in West Durham sell for several hundred pounds(13). An indication of the sale of former colliery houses is given by the figures for houses built before 1914 which were in owner occupation in 1966 (see Table bc 18). These comprised a significant proportion of the total dwelling stock throughout the west ($\geq 20\%$) rising to over 30% in Spennymoor, Bishop Auckland and Shildon. This compares with a figure of 16% for the whole Survey Area, and gives an indication that in some areas revitalisation schemes for old houses might be of greater relevance to the situation, than the large scale construction of new ones.

The decline in mining activity has affected West Durham to the greatest extent, and many of the miners displaced travel to collieries east of the A I. However the rundown of the industry has accelerated since 1960, rather than being stabilised as was once predicted, and so redundancy has become a major problem in the eastern districts(16). This is due in part to competition from other fuels, and in part to the exhaustion of seams once regarded as productive for some time ahead (as in Brandon and Bowburn). Mechanisation also decreases the industry's labour requirements whereas labour made redundant by the mining industry is spread throughout the coalfield, new employment tends to be highly

concentrated in a small number of attractive poles. The best locations are on the conurbation margins, as with the Team Valley Trading Estate, Birtley and Washington New Town, areas which are accessible to both the large labour pool in the conurbations and also to the mining districts, and secondly, the central belt along the line of the A1-Durham Motorway and main railway line, which includes the above-mentioned points, plus a southerly group of Durham City (growth of white-collar employment), the Spennymoor Trading Estate, and Newton Aycliffe just outside the Survey Area.

Table (1) Industrial Trading Estates(17)

	<u>Employment (1964)</u>	<u>Growth 1954-64(%)</u>
Team Valley	17,199	31.7
Aycliffe	8,286	125.8
Pallion (Sunderland)	6,443	70.7
Spennymoor	4,467	22.0
Bede (Jarrow)	3,987	86.1
West Auckland	2,065	7.8
Sherburn	1,275	28.3
Sildon	961	25.0
Houghton	959	41.9
Langley Moor	598	5.4

In addition to employing miners from West Durham the central belt of growth points will have to cater increasingly for miners from the east. To the north Sunderland has its own problems and can offer little help to displaced miners, and the growth of employment in Peterlee is, as yet insufficient to cater on the required scale(18)

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1966
 - 3 Contrast the pre-industrial settlement at the scarp foot and the
colliery extension on the steep slopes.
 - 4 A T Smailes, North England, London, 1960, p 196
 - 5 Personal discussion with G A Nadur, 1966
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 - 7 The point is discussed in some detail in Chapter III
 - 8 H J Dyos, Victorian Suburb, op cit
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local records offices
 - 10 V G Kenwood, "Building Cycles in the North-East, 1853-1913",
in the Manchester School, May 1963, pp 115-128
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 - 12 See Appendix Table bc 16, "Slum Clearance, 1956-66"
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CHAPTER IIIPlanning Surveys and Recommendations

In 1946 the area faced a number of serious planning problems(1) -

(1) The economic problem stemming from the decline of the basic industries and the insufficient expansion of modern growth industries

In the short term there was no serious unemployment, but in the long term considerable structural realignment would be necessary

(2) The settlement patterns and urban fabric brought into being by coal mining and heavy industry, were ill-adapted to modern needs, with regard to such things as the provision of services

(3) The large "housing problem", which resulted from obsolescent, overcrowded, ill-equipped and also very small dwellings built in 19th century

(4) The poor quality of the environment, due to industrial despoilation caused by waste tips and derelict land

(5) The poverty of social resources and unbalanced social structure resulting from the dominance of heavy industry and mining

Altogether these factors were responsible for the general lack of prosperity compared to other regions, and hence a heavy out-migration which further weakened the regional economy. The problems relating to housing and the environment would be taxing enough, even if the economy was robust, and therefore the economic difficulties made them doubly so. They have necessitated heavy reliance upon governmental help through public investment

The Second World War marked a radical change in the climate of public opinion towards planning. The short-comings of development

in the inter-war period, the increasing complexity of modern society, plus the need to rectify past mistakes and to adapt to changing conditions, led to the realisation of the need for planning to be comprehensive in future. To this end the Town and Country Planning Acts of 1943 and 1947 laid down the basic framework. All forms of development were made subject to planning permission, and it became the obligation of every County Planning Department to produce a Development Plan and also produce Town Maps for its main urban areas(2). These planning documents were to contain an appraisal of the existing situation, to outline objectives and to indicate methods of pursuing them. For County Durham, the County Development Plan published in 1951(3), was preceded by the report of Pepler and MacFarlane in 1949(4). The latter was an advisory report which covered the whole North Eastern Region, produced by planning consultants in order to suggest remedial measures to the planners employed by the various County Councils. The Pepler-MacFarlane Report will therefore be examined largely out of academic interest, to see what measures were recommended, and also the extent to which these were in-corporated in the County Development Plan.

The Recommendations of the North East Area
Development Plan of Pepler and MacFarlane

The report stressed the changing conditions with regard to the relationship between employment and housing. New housing would be needed to meet the requirements of -

- (a) the replacement of obsolescent properties
- (b) the abatement of overcrowding

(c) the natural increase of population in an area with a birth-rate well above the national average

Therefore, the question of the siting of new residential communities would be of crucial importance. Most mining villages were regarded by the authors as ill-suited for the purpose. "There are few that could decently be enlarged and hardly any that do not require reconstruction" (5) the reconstruction of obsolete settlements in West Durham, where collieries had closed and where new industry was unlikely to flourish, was regarded as a retrograde step. Instead a positive policy was needed, the one suggested would involve planning for industry in sites where it could flourish, with new houses in up-to-date communities nearby, into which the population of the dying coalfield could gradually move. For areas with long-life collieries the policy recommended was one of "recentering" village communities. A group of villages could be reformed at a common centre conveniently placed in relation to the collieries, and capable of offering much improved amenities. The case of Peterlee New Town originally promoted by Gasington R D C was cited as an example of what to do. Also stressed, was the need for the integration of plans for mining and new housing with the aid of phasing.

As stated by the authors(6), "The general aim of the plan is to facilitate the growth of a series of communities related either to the basic industries at present rooted or to be established in the towns on the estuaries, or to new industrial areas either to provide employment as coal is worked out, or as a supplement, or comprising a recentering of a number of villages, or rounding off an existing, self-contained, flourishing and not yet too large a centre"

Settlement Proposals

New neighbourhoods would be attached to the conurbations, which are the major industrial areas, these would include a major extension south-east of Gateshead between Felling and Usworth, to take a total of 40,000 people as overspill from Gateshead, Hebburn and Jarrow. In addition, two "Quasi-New Towns" would act as Tyneside dormitory settlements, one in Northumberland, the other at Barlow a small agricultural village near Blaydon. The latter would accommodate some 36,000 people from Gateshead, plus 6,500 from mining villages within Blaydon U D and 5,500 from neighbouring Whickham U D. After some deliberation, the case for a similar dormitory town for Sunderland was rejected. A New Town was proposed for a site at Brandon near Durham, to supplement those already approved at Peterlee and Newton Aycliffe(7). The recommended populations were 22,400, 38,000 and 23,000 respectively, to be drawn largely from the mining communities in their vicinity. It was strongly recommended that unsatisfactory villages should not be added to, but groups of them be recentered on a revitalised town or village, conveniently placed in relation to employment.

With regard to the New Town and recentering proposals, certain growth centres were selected from the more attractive settlements, when these had land available for expansion and also suitable locations. Within the report, figures were suggested for the various migration streams from the mining settlements to the growth points(8). However the evaluation of these figures is hindered somewhat by variations in their degree of precision, in some areas the figures were calculated for every settlement, right down to places containing populations numbered only in hundreds, whereas in other cases settlements

were grouped together to give populations in tens of thousands (9). In some instances this might be explained by the small proportion of the population to be involved in the movement, though mostly it appears to reflect different areas covered by different survey workers. There is no satisfactory way round this difficulty, and so it must be borne in mind at certain points in the analysis. The statistics relate to the coalmining districts, and exclude the conurbations, along with the fringe areas of Boldon, Sunderland R D and Whickham. For the area covered the majority of settlements would be affected by the projected upheaval, in fact, the total movement would involve 154,865 people, or 26% of the resident population. In view of this, no time scale was suggested for the change to take place. Population would be directed from 58 village groupings into 4 New Towns (including Newton Aycliffe) and 11 recentering communities, only 24 settlements would not be affected. Three of the New Towns were to be situated in the west, the other in the east, while for the recentering points four were in the west, four in the central belt and three in the east. The recentering villages of New Washington, Sherburn and Bowburn would increase their populations by the greatest margins, while the generally larger sized communities chosen for "gathering in" population from surrounding villages, would also substantially increase in size (35-60%). In addition, three lesser centres were chosen for small-scale movements.

The recommended changes may be examined in two ways, first of all, in terms of the migration streams between settlements, and also in terms of the resulting proportional changes in population. The pattern is most intricate in the west, which contains 10 of the

Table (A 1) The Recentering Communities

	<u>Existing</u>	<u>Additional</u>	
<u>(a) Minor Population Additions</u>	<u>Population</u>	<u>Population</u>	<u>% Increase</u>
Houghton le Spring	9,000	632	7 0
Hetton le Hole	12,768	1,000	7 8
Kelloe	2,101	646	30 7
<u>(b) Major Settlements for</u> <u>"gathering in" of</u> <u>population</u>			
Birtley	11,650	4,180	35 9
Ryton	8,554	3,652	42 6
Bishop Auckland	15,064	6,740	43 8
Esh Winning	5,000	2,288	45 8
Spennymoor	16,400	9,226	56 3
<u>(c) Important Recentering Villages</u>			
New Washington	5,624	7,655	136 1
Sherburn	1,332	1,937	145 1
Bowburn	1,869	3,280	175 5

13 migration streams involving more than 3,500 people, and also 13 of the settlement groupings whose populations were to decrease by more than 70%. Despite the shortcomings of the figures (mentioned earlier), the above table illustrates how the population tends to increase as the impact of the suggested change becomes less drastic.

Table (A 2) The Population Distribution of Settlements According to Proposed Level of Population Change

Population Change	70%	40-60%	0-30%
Number of Settlements	27	22	12
U Q	4,007	10,694	16,036
Median	1,857	4,042	8,654
L Q	788	2,768	2,611

Map (A 3) gives an indication of the rearrangement of the settlement pattern into a more convenient pattern. Rather surprisingly there was very little migration to be directed from the west to the east, though it could be that migration from the Consett, Annfield Plain, Burnopfield-Dipton groups of settlements labelled "elsewhere", was expected to move eastwards, as well as to Tyneside. In the west some settlements would be expected to send migration streams to more than one destination, usually to the local reconcentering point, in addition to the nearest new town. The settlements which would not be involved in the general upheaval, are most mostly sound and reasonably attractive villages, which were thought not to possess certain of the necessary attributes for reconcentering points. In the west Powlands Gill, Ebchester, Lanchester, Witton le Wear, and Kirk Merrington were in this category, all villages relatively little affected by industrial squalor.

In the east the scale of change would be greatest around Peterlee, a receiving centre for population from all the large mining communities of the south-east, and also around the more localised but important reconcentering villages of New Washington,

Bowburn and Herburn. A number of sizeable settlements in the group along the plateau margins would be unaffected by the changes—for instance, Penshaw, Newbottle, Fence Houses, and Easington Lane, which is rather surprising in view of the problems in this area (see P. 12). Also unaffected would be a group of medium-sized sound villages similar to those in the west. The group included East and West Houghton, and Cassop. Two of the largest towns in the area surveyed would also remain unaffected by proposed changes, namely Durham City and Seaham Harbour.

Altogether, the proposals made by the Penler - MacFarlane Report were drastic and far-reaching. The extent to which they were adopted by the Durham County Development Plan will be considered next, as this would govern the planning policies which would finally be implemented.

The Durham County Development Plan (1951)

The plan examined in great detail all aspects of the environment, and made relevant proposals. Here, however, attention will be confined to the adjustment of the settlement pattern within the limits of the Survey area.

The scale of population movements and accompanying upheavals which the Penler-MacFarlane proposals would lead to were regarded as too drastic to be generally acceptable. The idea behind "recentering" was adopted, but in a weaker form, and it was to be termed "re-grouping". In addition the proposed new towns at Barlow and Brandon were abandoned, in the latter case it was felt that insufficient male employment would be attracted to support a New Town, and also the

(D) Settlements expected to suffer a considerable loss of population, and in which there should be no further investment of capital on any considerable scale, and where any investment proposals should be carefully examined

site was considered to be too close to Durham City

The essence of the proposals, was the need for selective development through investment in those settlements where it would produce the greatest returns. It was recognised that in future there would inevitably be much change in the function and distribution of settlements. For this reason there was a need to anticipate and plan for the changes. Hence, all settlements were classified in one of four groups A to D, according to the likely future change in population. The four divisions were -

(A) Those settlements in which considerable investment was envisaged, because of population increase through regrouping and the retention of natural population increase

(B) Those in which the population level would be stabilised, so that only sufficient investment was needed to cater for the existing population

(C) Settlements expected to suffer a considerable loss of population and in which there should be no further investment of capital on any considerable scale, and where any investment proposals should be carefully examined

There was insufficient time for a detailed survey and so the original survey was intended to be provisional, a number of changes were later made (see P 34). Unlike the Pepler-MacFarlane proposals, no attempt was made to estimate the scale and direction of population movements between donating and receiving centres. This was to be left to the initiative of individual local authorities. It was deemed sufficient merely to define the trends underway, rather than apply directive measures.

Next follows an examination of the pattern of settlements according to their classification (see Table bc 10). It is notable that many of the larger communities were included in category 'A', though surprisingly this is less true in the east than in the more rapidly declining west. Part of the explanation, is the presence of Peterlee, which meant that most of the large mining communities in Easington R D were in category 'C'. However, in other parts of the east, sizeable settlements were not included in category 'A', this is true in the case of Seaham Harbour, Ryhope, New Silksworth, South Hylton and Fence Houses, all in category 'B'. The ring of villages around Sunderland were mostly in the latter category, and therefore expected to remain at the same population level. This points to the difficulty of examining settlements in isolation, because in most of these cases the settlements are not particularly attractive, but in view of the relative economic prosperity of this area during the 1950's and its location on the Sunderland fringe, growth was inevitable (see P 34). In the Development Plan the major 'A' centres for the eastern section of the coalfield, apart from Peterlee, were in the line of settlements along the plateau margins and included New Washington, Penshaw, Houghton and Hetton, though these major regrouping points were interspersed with settlements in other categories, for instance Washington Village, Washington Station, Fence Houses and Easington Lane in category 'B', Newbottle in category 'C', and New Herrington in category 'D'.

The central part of the coalfield along the axis of the A 1 provided a number of well-located growth points, such as Birtley, Chester, Durham, plus smaller places like Barley Mow, Great Lumley, Bowburn and Brandon, in an area of good general growth conditions

Table (A 3) The Size Distribution of Settlements According to their Classification

Category	A	B	C	D
No of Settlements	53	51	29	62
Upper Quartile	7,738	3,180	6,110	1,830
Median Population	4,170	1,550	3,000	1,005
Lower Quartile	2,435	420	1,400	680

The situation was very different in the west 'A' centres were almost as dense on the ground, but they were generally surrounded by clusters or strings of small settlements in category 'D' The size distribution of settlements in different categories is brought out by Table (A 3), which clearly shows the small size of settlements in category 'D' The western pattern is epitomised in the area between Annfield Plain and Chester le Street Here the main centres of population, Stanley, Burnopfield, Petton, Sacriston, Annfield Plain and Chester, were in category 'A', while the numerous small remnants of sporadic mining activity were in the 'D' group, for instance, Craghead, Quaking Houses, Beamish, West Pelton, Tanfield Lea, Urroth and numerous others The pattern is repeated throughout the west, though in some areas villages with agricultural nuclei and those which provided sound communities, but which were not suitable for regrouping centres, were included in category 'B', this group included Stley, Witton le Wear, Iveston and Barlow of the former type, and West Auckland, Leadgate, Consett, Bearpark and Tudhoe in the latter

It would appear from the settlement proposals embodied in the 1951 Development Plan that regrouping was to be applied to larger settlements in the east, than in the west, where it was regarded more as a means of gathering much of the untidy straggle of housing into the larger centres. For the most part the larger settlements were included in categories 'A' and 'C' (see Table A 3), the latter being largely accounted for by the South-east. Category 'B' implied a high degree of stability, and for this reason included settlements which were reasonably sound in appearance, but without possessing the attributes needed for regrouping centres. The group included a number of medium sized mining communities, along with many of the smaller agricultural settlements. The category with greatest emphasis upon small settlements, however, was category 'D', where apart from such places as Dunston, Coundon Grange, Langley Moor, New Brancepeth and Hamsterley Colliery, the great majority of the 62 settlements were small defunct clusters of mining rows.

Despite the avoidance of the more controversial issues embodied in the Pepler-MacFarlane Report, strong opposition was aroused to the regrouping policy, particularly in certain western districts. The extent to which it has been applied has depended, in large measure, upon the attitudes of individual authorities. Those such as Easington R D, Durham R D, and Brandon U D had realised the need for selective development before the County Development Plan was published, and were only building sizeable housing schemes in what were to become the officially recognised regrouping centres. In other areas the councils themselves opposed the principle of

of regrouping, this was the case, for example, with Crook and Willington U D and Blaydon U D. There has also been a long and bitter struggle on the part of certain villages classified in category 'D'. There is a continuous history of Public Planning Inquiries concerning proposals to build in 'D' villages(10). In 1952 a Public Inquiry was held when Crook and Willington U D C objected to the County Council's refusal to permit development in a whole group of settlements, which included Sunnyside, Mount Pleasant, Stanley, Orkenshaw, Roddymoor, Helmington Row and Page Bank. Two of the villages in the west which have fought hardest for development are Witton Park and Hamsterley Mill. In the former, there were Public Inquiries in 1955 and 1961, and the inhabitants organised a march on Bishop Auckland Town Hall in 1968, in the case of Hamsterley Mill appeals were refused in 1954 and 1961, but another was fought in 1968, on the basis of "changed local circumstances"(11). Another long battle has been fought by the councillors representing the Langley Moor Ward of Brandon U D (12). In this case the area restricted from development contains the major shopping area for the whole group of settlements, and the shopkeepers are especially averse to losing their custom.

In the above-mentioned cases the original settlement designation has been rigidly adhered to, but in many other instances housing developments have made nonsense of the 1951 settlement classifications. Sometimes the shortage of alternative land, or the availability of sewerage facilities have channelled building into 'D' villages, as at Tanfield Lea, Lintz, Stella, Nettlesworth, Ouston and Low Moorsley. The 'C' villages of the south-east have received some modern building,

though this has only been significant relative to the population in the case of Hurton, which is furthest from the New Town. The original classification of Seaham and the communities of Sunderland into category 'B', was nonsensical in view of the relative prosperity of mining in these areas and the continuing need for new houses, these places have experienced among the highest rates of growth with regard to public authority housing in the period 1946-66 (see P 62). For East Durham, in general, the position regarding the re-classification of settlements, and indeed the original bearing of the classification on what was likely to happen, is even less clear than it is in the western districts.

If the original application of the regrouping policy to the coalfield settlements, was a weaker version of Pooler and MacFarlane's 'recentering', it was further watered down in its statement in the first draft of the County Development Plan (1961). The number of categories was reduced to three as follows -

- (a) Those in which approval may be given to development
- (b) Those in which a limited number of houses may be built where appropriate
- (c) those in which new capital investment would be limited to the facilities required by the existing population

Under this classification certain settlements from categories B, C and D in the original list were transferred to above category (a). This occurred, for instance, with most of the large mining settlements in Fasington F.D., and also with Blaydon, Dunston, Leadgate, Coxhoe and Low Law. Category (b) mainly comprised small villages and agricultural communities, while (c) contained the rump of groups C and D. In spite of these changes the written statement reaffirmed

the need for regrouping mining population. Owing to the strong opposition to this policy, the County Council made concessions in some cases, though it refused to do so in a number of noteworthy cases (see p 33)

In the 1964 Development Plan Amendment, all settlements were catalogued, and reference was made to the original designation, then mention of developments since 1951 often showed the extent to which this had been ignored. Sometimes changed local circumstances led to re-designation, though in other cases developments were less justifiable. A good example of the former is Ouston on the margins of a part of West Durham in rapid decline. After the closure of local collieries there was a large-scale outward movement of population, but towards the end of the 1950's the village found itself brought within the sphere of the Team Valley - Birtley growth area. A shortage of land for private housing in Birtley resulted in the builder William Leech selecting Ouston for a large comprehensive housing scheme, and by 1966 over 500 houses had been completed.

During the post-war years the total population of the port conurbations has been remarkably stable with a percentage change of +0.2 between 1951 and 1966(13). The large scale expansion of the residential built-up area (by 30-40%) has been the result of new house building to relieve overcrowding and to rehouse slum dwellers (see P 49). In order to prevent the great surge of housing stretching from the southern edge of Gateshead to South Shields and then around Sunderland, from enveloping the near by communities, draft proposals for the introduction of a Green Belt were submitted to the Minister of Housing in 1955(14). The intention was to prevent Gateshead

merging with Whickham and Birtley, and Sunderland and South Shields from coalescing with the intervening villages. Future building in the later villages, and in others, such as Silksworth, Ryhope and Springwell would be of a "rounding-off" variety.

Much smaller Green Belts were to be established around Durham City, to preserve its special character, and between Peterlee New Town and Esington Village, to prevent their merging.

By the 1960's the worsening economic position of the North-East Region led to the realisation of the need to tackle the planning problems with greater urgency, and also of the need for an overall view to co-ordinate the various modernisation programmes throughout the region. The major outcome was the publication of the "Hailsham Report" in 1963(15). In this report, the need was stressed for a "faster rate of building for sound economic reasons. By making the region a better place it should enhance its power to retain or attract the confidence and the people, especially the key workers of all grades, necessary for expanding enterprise. By reducing an obstacle to local mobility of labour it will facilitate the fullest development of all parts of the region, and especially the growth zone" (16).

The growth zone takes in Tyneside and Tees-side and the intervening area, which has its eastern limit along the coast, and its western limit a little to the west of the Great North Road(17). This zone would account for the increased rate of building, which would be partly accomplished by private enterprise, but mainly by local authority building. Housing authorities were encouraged to use industrialised building techniques more widely, to

develop new designs, and to pool local authority programmes and ordering power

Secondly, attention was focussed on the importance of New Towns in their dual rôle of (a) helping to relieve the housing needs and congestion of the cities, (b) their positive rôle in stimulating the region's economic and social development and in raising the quality of its life. Newton Aycliffe has become a major employment centre for the south-west of the coalfield, and Peterlee was expected to be of increasing significance in view of the worsening of the local employment situation in the south-east. A strong case was put forward for an additional New Town at Washington to accommodate between 70-80,000 people. The town would serve the overspill needs of both Tyreside and Wearside, and it possessed an excellent location in relation to communications along with the availability of land for housing and industry in an area with obvious growth potential. The main snag appeared to be the straggling settlements already in existence, which housed almost 20,000 people, though the New Town would provide the means of tidying this up. An earlier proposal for a New Town at Washington put forward by Durham County Council was rejected by the Ministry of Housing and Local Government in 1961, on the grounds that "it would clearly not be a self-contained community, since travel to work both to and from Washington must be expected to continue" (18). The pressures of population on housing land in the conurbations ringed by Green Belts, and the need for large industrial sites in North Durham, meant that the designation of Washington would be the obvious solution. Hence this was proposed in the Hailsham Report as part of the overall development of the urbanised region in north-east Durham, in which the New Town would provide substantial

housing and employment, and at the same time improve the environment of the area and provide better services. After this the Ministry decision was revised and Washington New Town was approved in 1964.

In the main, the Hailsham Report recommended that increased rates of housing construction would benefit the region, and that the houses should be located in relation to the growth points - the conurbations, New Towns and towns like Durham City, these are all situated within the growth zone, the area where conditions were seen to be most favourable for self-sustaining growth and which is best placed to generate increased activity over a wide area. Financial incentives would be offered to enterprises of a service as well as an industrial nature, within the growth zone, and attention was to be given to improving the basic infrastructure, particularly through the construction and improvement of roads. Outside the growth zone, the report advocated the need for a more vigorous implementation of the regrouping policy, in order to lessen the impact of mining closures.

Various sub-regional trends may require different planning measures, but there is the same underlying need for new industries and an improved urban environment. The re-development of overcrowded housing areas in the conurbations has produced considerable "overspill" population, which has been removed to the peripheral areas, by 1966 the only "official" overspill movement had taken place between Gateshead and Felling (9,500 people). The creation of Green Belts around Tyneside-Wearside and the resulting pressures meant that Washington was designated as a New Town in 1964, though the overspill to be received from the conurbations would be in the form of voluntary

migration(19) Similarly in 1964 the designation of a Silksworth as a New Township was approved, this settlement is located on the southern edge of Sunderland, and comprises one of the settlements of Sunderland R D which was incorporated within the County Borough in April 1967. Apart from these schemes for planned decentralisation from the conurbations, there has occurred a "spontaneous" movement of people into new private housing estates within the zone of suburbanisation focussing on such places as Whickham, Chester, Houghton and their associated villages (see p 108). Mention has been made of the difficulties involved in the implementation of the regrouping policy in those areas where it is most needed (see p 32). The structure of local government area hinders the movement of population, since authorities prefer to rehouse people within their own boundaries. In the areas of greatest decline, the centres chosen as regrouping points have been too numerous to make the policy really effective.

It has been necessary to gradually educate people to the need for particular planning measures. Those advocated by Pepler and MacFarlane were too drastic for general acceptance in 1949, and local politics have the effect of slowing down the planning machine when major changes are involved. Overall, there has been a tendency for planners to be caught between two stools, on the one hand that of directive planning, where an effort is made to forge the pattern which is most desirable, and on the other, to plan along the trends which are already underway. In the case of the Durham Coalfield far-reaching measures are needed, but there are inevitable difficulties and delays in implementation. However, during the post-war period there has been a realisation that in the process of

seeking to lift the quality of life in the region it would be best to focus attention on the natural points of growth, upon which the economy will depend. For the Survey Area, these points are located in the north-east section and along the axis of the Great North Road

- (1) Sir G Pepler and P W MacFarlane - The North East Area Development Plan (1949)
- (2) County Durham Development Plan and Survey (1951)
- (3) First Review of the County Development Plan (1961)
- (4) The County Development Plan Amendment (1964)
- (5) The North East - A Programme for Regional Development and Growth, H M S O , 1963
- (6) Washington New Town Northern Architect, March 1967, p 774, contributors R E Atkinson, W Burns, C Blackhall, M Franklin
- (7) Town Maps for Urban Areas within the Survey Area
- (8) D Senior, Growth Points for Durham (1965)

References to Chapter III

- (1) Based on County Development Plan, 1st Review, Written Analysis, 1961
- (2) By 1966 Town Maps had not been published for Durham City, Brandon and Pyton
- (3) County Durham Development Plan and Survey, 1951
- (4) Sir G Pepler and P W MacFarlane, the North East Area Development Plan, 1949
- (5) Ibid, p 166
- (6) Ibid, p 189

- (7) Situated just outside the Survey Area
- (8) See Table (a 1) in Appendix
- (9) Areas covered in detail were Durham R D , the Brandon and Spennymoor districts, settlements were included in large groups in the zone between Chester and Consett
- (10) Information obtained mostly from County Planning Office in Durham City
- (11) Northern Echo, Sept 11, 1968
- (12) Information from discussions with the Surveyor to the Council
- (13) The population of the "core" areas of South Tyneside, plus Sunderland C B increased from 480,180 (1951) to 492,590 (1961), but then slipped to 481,240 in 1966
- (14) County Development Plan, 1st Review, op cit
- (15) The North East A Programme for Regional Development and Growth, H V S O , 1963
- (16) Ibid, p 25
- (17) Ibid, p 16
- (18) R F Atkinson, "Washington New Town", Northern Architect, March 1967, p 774
- (19) M Franklin, "Washington New Town", Northern Architect, March, 1967, p 777

CHAPTER IVThe Public Authority Housing ProgrammeSECTION(1) Public Authority Housing Construction in the Durham
Coalfield (1946 - 66) - Introduction

To aid the description of the major elements of public authority housing activity neighbouring authorities have been grouped into Sub-regions (see Appendix Table bc 2) However these are merely convenient groupings and are inevitably arbitrary in certain cases Fringe authorities pose problems of allocation, for instance, Boldon situated between Tyneside and Wearside is included with the colliery districts of North-East Durham, similarly Brandon is placed in the South-Centre, rather than the South-West Despite such shortcomings the sub-regions provide a geographical framework for the examination of differences between mining districts in the west, centre and east, also between these and the conurbation groups of East and Central Tyne, and Wearside After an examination of the general building pattern at the district level, departures by individual authorities can be examined The local authority is the smallest geographical unit for which separate quarterly returns are available(1) though statistics were obtained in field-surveys for individual settlements and also for wards and parishes, to enable a detailed analysis of the situation

The scale of public authority programmes has varied from 22,000 in the case of Sunderland, to 4,800 for West Tyne 34,600 houses were built on South Tyneside and 32,740 in Sunderland and District When housing completions are related to population,

ratios vary from 120.8 per thousand for Sunderland to 58.4 per thousand for North-West Durham. Generally speaking districts with highest ratios occupy the eastern coastal section, while the central belt has intermediate values, and the west has lowest values. Assuming that there are 3 zones running east-west, it is the central zone which has the steepest gradient - between Sunderland and the North-West the building ratio falls by 52%, while for the Northern belt it falls 36%, and for the Southern belt, 33%.

Table (B 1) Public Building Related to 1951 Population(2)

Sub-Region	Population	No of Dwellings	Ratio per '000 inhabitants
West Tyne	67,690	4,793	70.8
Central Tyne	140,320	12,250	87.3
East Tyne	158,340	17,558	110.9
South Tyne	366,350	34,601	94.4
North East Durham	90,470	10,802	119.4
Sunderland	181,520	21,936	120.8
Sunderland Dist	271,990	32,738	120.3
East Durham(3)	126,810	13,067	130.0
South-Centre	72,680	7,227	99.4
Centre	59,530	5,129	86.2
North-West	102,990	6,013	58.4
South-West	98,280	6,828	69.2
Total	1,101,810	105,602	95.9

The zone of greatest relative concentration occurs in the North-East with Sunderland C B and the authorities around Tyneside and Wearside, plus a secondary concentration on East Tyneside.

Trends in Annual Completions

While recognising that housing programmes are of different scales, it is possible to make comparisons with regard to building trends. The graphs (see Graphs EC.3) portray the rapid build-up during the early post-war housing drive. Annual completions reached peak values in the years 1948-49, and again in the early 1950's. This resulted in part from the renewed burst of activity which followed the change in government in 1951. The significance of these two peaks varies from area to area, in a number of cases there is only one peak in the early 1950's. Twin peaks can be observed in the cases of Sunderland, North East Durham, West Tyne, the South West and North West. After the peak levels of 1950-1956 there was a decline in building activity, which was not halted until 1962. The upturn in building trends at that point was fostered by renewed government encouragement.

At examination of trends at the district level reveals a number of salient features -

(a) A rapid build-up to an early peak in 1950 and then a gradual decline to low points in 1961 for South Central Durham, 1962 for West Tyne and 1964 for North East Durham. There has been little sign of revival in the 1960's, merely stabilisation.

(b) This group has a more gradual build-up to later peaks, between 1954 and 1956, followed by a decline to 1961-62 low points, and then revival (for Central Tyneside) or stabilisation (East Tyne, East Durham). These comprise three of the four districts with largest building programmes.

(c) Sunderland with the largest building programme is in a category by itself. An early peak in 1950 was followed by a sustained high level of construction for five years and then a decline until 1960. The latter was smaller than in other districts, a percentage drop of 23 against 42.5% for the whole area. In addition, Sunderland showed a sizeable recovery after 1961, thus this district with the largest programme, has not been beset by the wild fluctuations which have affected areas like Central Tyne. This is partly a reflection of the efficient organisation of the programme, though during the period 1946-66 the availability of land suitable for development which was not subject to subsidence, was also very important.

(d) The final group experienced a gradual build-up to late peaks in 1954-55, then a large decline until 1961-62, which was followed by recovery in the cases of South West and Central Durham, and stabilisation in the North-West.

Table (B 2) Maxima and Minima in Housing Construction

	Maximum Value Attained	Minimum Value Attained	Percentage Difference
(a) Sunderland	1950	1960	23.0
East Durham	1954	1961	35.7
East Tyne	1965	1962	42.6
(b) West Tyne	1950	1962	47.3
Central Durham	1955	1961	52.6
North East Durham	1951	1961	57.2
Central Tyne	1956	1961	59.5
(c) South West Durham	1954	1962	64.8
North West Durham	1954	1962	66.0
South Central Durham	1950	1960	68.5
Total Area	1954	1962	42.5
England & Wales	1954	1961	44.2

Comparing the percentage change between peak building levels and the low points (see above) it can be seen that only three of the ten districts have figures at or below the level for the Survey Area and England and Wales. The districts concerned have among the largest building programmes which, furthermore, were sustained with high levels of demand stemming from the needs of slum clearance, and in the case of East Durham, regrouping into a New Town. These became very important when building for "general needs" was no longer subsidised. Economically the three districts contain important elements of the regional economy and all are situated in the east. The four districts in an intermediate category (decline between 47-60%) are, with the exception of Central Tyne, on the less heavily urbanised fringe of the conurbations. Central Tyne was faced by problems of land development during the 1950's. The area can only expand Southwards and much of this area was either affected by subsidence or was designated within the Green Belt. For the other districts, once the urgent housing needs were met there was a slackening in construction. They were not faced by the slum problem of the inner conurbation authorities, also building was supplemented in the second half of the 1950's by private housing once suburbanisation was underway.

The greatest declines (65-69%) occurred in mining districts further out from the conurbations, although they were due to differing factors. The western section of the coalfield has experienced the greatest contraction in economic activity resulting in heavy out-migration of population. Nevertheless, a revival in the construction level was apparent in the South West after 1961. Despite having the greatest proportion of old properties in its housing stock, the need

for, and capacity to build new houses in West Durham was less than in other districts. By contrast, the South Central District with the greatest decline of all (68.5%), has a high ratio of total building relative to population. The large decline is linked with the very considerable housing drive of the early post-war years, which was of greater magnitude relative to population than that of any other district and went further in meeting the demand for council houses with the resulting slackening of building rates after 1956. At the same time there was an expansion of building in the private sector.

Local Variations in Public Building Trends

Most of the local authority programmes conform to a number of basic patterns. These generally vary according to location, and as building trends have already been analysed at the district level this only needs to be supplemented by a consideration of local factors at work, where these produce further variations.

Housing programmes have aimed at tackling problems whose emphasis changes from area to area, for instance, urban re-development and overspill programmes to cope with slum clearance in the conurbations, contrast with the intricate regrouping policy of the mining areas, which involves the re-structuring of the settlement pattern. Whereas the housing drives of the early post-war years were of a comparable size relative to population in most areas, the differential between east and west has steadily increased since then (see Table B 2). The core urban areas face a serious and continuing slum clearance problem, but the acute housing shortage within the conurbation,

districts has eased, and so regrouping continues at a more gradual pace. Western districts have experienced heavy outward migration of population, they also possess a stock of old houses, often in reasonably pleasant open surroundings, which helps to render them habitable for longer than would be the case in the conurbations. Certain areas have also been aided by increased private construction. These factors help to explain the concentration of public housing construction in the conurbations and their fringe, which is also the area of greatest employment opportunity.

Public building in the west reached its peak in the early years, 1948-49. Since then decline has been continuous and on a larger scale than elsewhere. Exceptions occur in the south-west where there was a revival during the 1960's. In the case of Bishop Auckland the construction level rose from 40-80 (1959-64) to 241 and 319 in the years 1965 and 1966. This area has the greatest shortage of modern houses, though its revitalisation has been aided by the success of nearby Newton Aycliffe in providing employment opportunities, with a multiplier effect in the surrounding communities(4).

Building regimes in the central belt are similar to those in the west, but with a smaller decline and slightly later building peaks (early 1950's). The degree to which the housing shortage has been alleviated, plus the success of large private housing schemes have again contributed to the fall in the level of public building. However since 1963-64 this has been stabilised, and in the case of Chester R.D. there was a substantial increase from 30-40 completions (1959-60) to 350 (in 1966).

The eastern mining areas sustained public building at a higher level than other mining areas, largely on account of the healthier economic position, the heavier dependence upon the public sector and the regenerative force of Peterlee New Town, as well as nearness to the port conurbations in the north-east (e.g. in the cases of Sunderland R.D., Boldon and Washington)

It is in the case of the conurbations that there have been greatest variations, both between different conurbation authorities, and between these areas and the colliery districts. Outside Sunderland and South Shields, the construction level did not reach its peak until the late 1950's (in Hebburn, Felling) or the mid-1960's (Gateshead and Jarrow). Graphs of cumulative totals (see Graphs BC 4) reveal that Sunderland and Jarrow have maintained remarkably even rates of building, in contrast to the wide fluctuations apparent in other areas. This is clearest in Felling, where there was a tremendous upsurge of building between 1954 and 1959, largely to take overspill from Gateshead(5). The Hebburn and Gateshead regimes exhibit wide fluctuations due to slum rehousing. Central re-development has played an important role in this context, but highest building levels were achieved by massive peripheral developments. With the continued spread of Tyneside southwards it has become a problem to find land suitable for large-scale building. This has been important in the case of Gateshead, though Jarrow too was forced to build an estate in Boldon in the years 1961-64(6).

In general, each authority has attempted to solve its own housing problems, and this has worked towards preserving the existing distribution of population over the Survey Area. In the mean-time

collieries have been closing, thereby removing local sources of employment which have been replaced by new employment located in the main towns and on the conurbation fringe. By preserving the scatter of population which arose as a consequence of coal-mining, there is inevitably a large increase in journey to work movements. Cullingworth has stated(7), that "Local authority" residential qualifications" threaten to constitute a new law of settlement though they are well organised for meeting local needs in a static situation"

The White Paper, "The Housing Programme 1965 to 1970", recommended that special efforts regarding public building allocations should be directed towards the conurbations, the areas of most pressing need, by concentrating efforts on these areas and the New Towns (Washington and Peterlee), the regional problem would be tackled on something more than a local ad hoc basis

Changes in the Pattern of Building

An examination of housing progress can be approached in two ways. Firstly, a static picture at any point in time can be presented, for example, by analysing the number of houses built and their location in relation to the distribution of population. A more dynamic method of presenting housing statistics is in the form of graphs of trend lines. Something of a compromise to bring out relative changes over different periods can also be used. The postwar period conveniently divides into three periods of equal length, which enable the examination of changes from one period to another by means of location quotients(8). By plotting the values

for each authority and then examining maps of these in chronological order, changes in the emphasis of housing construction are brought out

A general analysis of council programmes shows that the middle period, 1953-59 experienced the highest overall level of building with 41% of the total, against 31% in the period 1946-52 and 29% in 1960-66. The middle period contained the second, sustained phase

Table (B 3) Construction Levels

	<u>% of total Council Building</u>	<u>Council Buildings</u> <u>% of total</u>
1946-52	30.7	94.4
1953-59	40.6	82.9
1960-66	28.7	63.5
Total	100.0	78.7

of the post-war housing drive. The initial period included the peak years 1948-49, but also the early years before construction was fully underway, and 1951-52, when there was a decline. Likewise, the years 1960-66 experienced wide fluctuations, from the low point of the early 1960's to the gradual revival which occurred after 1964.

The public sector provided 94% of housing construction during the first period, but this slipped progressively to 63.5% for the third. Government restrictions on private building in the early years meant that in only four out of twenty-eight authorities was the public sector contribution below 90%. Despite the increase in the private contribution in the second period there remained fourteen

authorities where the public sector contributed over 90%. They comprised three main groups, on Middle Tyneside, Gateshead, Felling, Hebburn and Jarrow, in the eastern mining area, Easington, Seaham, Hetton, Washington and Sunderland R D , and in the west, Crook, Socnnymoor, Shildon, Stanley. The public sector contribution had, in fact, increased in authorities such as Brandon, Shildon and Chester U D. By contrast, in two authorities (Whickham with 41% and Boldon with 31%) the public sector contributed less than half the completions. These areas were fore-runners of the suburban wave moving outwards from the urban centres. Other areas where the public share was below the overall figure included the main urban centres, Sunderland (76.5%), South Shields (82.8%), Durham (62.9%), Consett (73.2%) and Bishop Auckland (85.2%), also the emerging second generation of "suburban" authorities, Blaydon (65.3%), Chester R D (79.4%) and Ryton (81.5%).

During the period 1960-66, despite a further sizeable fall in the share of construction within the public sector, it actually increased in certain cases, notably in Easington, Sunderland C B , South Shields and Boldon. The reasons were varied, but principally concerned slackness of demand in the mining areas, shortage of land for private development in the main urban areas, plus Green Belt restrictions affecting private building. By the 1960's there were still three authorities in which the public contribution exceeded 90% (Easington, Brandon, Shildon). For Sunderland and South Shields the figures had increased to over 85%, other areas with contributions above the overall figure included Tyneside authorities(9) and the static mining districts(10). A wide sweep of the coalfield within

reach of the main areas of employment growth had experienced a large fall in council building relative to that by private enterprise. The area with the public contribution below 50% covered a central group - both Chester le Street and both Durham authorities, plus extensions into West Tyneside (Whickham, Blaydon, Ryton), North East Durham (Baldon, Washington, Sunderland R D, Houghton) and Lanchester - Consett in the west.

Table (B 4) Analysis of Construction Levels by means of Location Quotients

<u>Number of authorities with -</u>	<u>1946-52</u>	<u>1953-59</u>	<u>1960-66</u>	<u>Total</u>
(a) Location Quotients 1	13	13	8	13
(b) Location Quotients 1	15	15	20	15
Upper Quartile Value	1 23	1 11	1 03	1 15
Lower Quartile Value	0 76	0 70	0 66	0 74
Inter-Quartile Range	0 23	0 21	0 18	0 21
Total Range	1 58	2 35	2 13	1 31

Table (B 4) points to a number of features in the changing pattern of council building, when examined in conjunction with distribution maps for the three periods(11). Whereas the inter-quartile range has successively fallen, leading to an increased bunching of values in the middle of the distribution, the total range, after a large increase between the first and second periods fell slightly in the third. The extent of the increase was largely attributable to the overspill programme undertaken by Felling, the remaining authorities showed practically the same distribution as

in the first period. The third period, however, brought about a substantial change, because, while some authorities received very little new building others undertook substantial programmes. Despite the increased divergence between extreme values there was a fall in the inter-quartile range. By this time only eight authorities remained above the quotient level of one.

An examination of the maps in chronological order is valuable -

(1) 1946-52 During this period the two areas of relative gain were, (a) in the north-east a compact group of populous authorities - viz Boldon (2.13), Sunderland R.D. (1.91), Sunderland C.B. (1.27), Houghton (1.52) and between 1-1.3, Jarrow, Hetton, Felling, Such Shields, (b) a group in the South-South-West including Durham R.D. (1.63), Brandon (1.61) and Spennymoor, Lanchester, Durham M.B. between 1.1-1.2. The areas losing relative to population fell into three groups - (a) a large part of the north and north-west, with a core of lowest values in Hicklam (0.57), Gateshead (0.58), Stanley (0.61), Chester R.D. (0.73), fringed by areas with slightly higher values in Ryton, Blaydon, Consett, Chester U.D., Washington, (b) A South-eastern group of Seaham and Easington, (c) In the South-west, Bishop Auckland, Shildon and Crook, with values between 0.55 and 0.8.

This initial pattern was fairly complex and has been gradually simplified in successive periods.

(2) 1953-59 The same number of authorities exceeded the quotient level of one, but their distribution altered somewhat. With respect to areas of relative gain, group (a) in the north-east consolidated its position and values increased markedly in middle

Tyneside The loss of Houghton and Boldon was compensated for by the addition of Washington and Hebburn Illustrative of the rise in values were Felling (2 91), Hebburn (1 90) and Jarrow (1 31), the Sunderland authorities and South Shields were more stable

The most notable increase occurred in the South-east where Seaham (1 25) and Easington (1 35) improved markedly In total, there was now a high concentration of high values in the eastern belt

The group of high values in the South had contracted noticeably with the loss of Durham M B , Spennymoor and Lanchester Even in the core area, Durham (R D) and Brandon (1 0) lost ground heavily, though this was partly compensated for by increases in Chester U D and Shildon

Areas of relative loss now formed two groups - (a) those authorities in the north and north-west, though with a westward shift in emphasis from the earlier period, with a core of low values (0 55 to 0 7) in Consett, Stanley, Blaydon and Whickham, this was surrounded by areas with quotients between 0 74 and 1 0 in Ryton, Lanchester, Chester R D and Houghton, (b) the area of lows in the south-west was now linked with that in the north-west through the addition of Lanchester The south-west generally had higher values and only Bishop Auckland was below 0 74 Hence, the concentration of low values was showing more clearly in the west, though a number of areas of low values were scattered throughout the coalfield - e g Durham M B Boldon and Hetton (0 65 to 0 75)

(3) 1960-66. The changes which had begun to be apparent earlier, were now speeded up. The area in which quotients exceeded unity had contracted to a narrow belt along the east coast from Easington (1.47) to Sunderland C.B. (1.48) with an extension to East Tyneside. To the north-west this area was fringed by areas in an intermediate position (between 0.9 and 0.95) in Gateshead, Chester P.D., Chester U.D., and Houghton. By this stage many western authorities had slipped to the lowest group (< 0.74), the only exceptions being Brandon, Bishop Auckland and Shildon in the south-west. The lowest values occurred in Stanley (0.27), Consett (0.31), and Crook (0.32) and virtually nil in Lanchester. The zone of low values included practically the whole of the west and swept round to the south to include the Durham authorities and Hetton. Peterlee New Town largely accounts for the healthy figure in Easington R.D. In total therefore, the picture is one of successive contraction towards the north-east, and in particular the dual poles of Wearside and Middle-Tyneside, with quotients decreasing outwards from this core. The anomaly of the south-west has been discussed earlier (see p. 48). The reasons behind decreasing construction levels in particular areas have already been mentioned (see p. 46), however in this context it is also necessary to remember that internal population movements had occurred since the end of the war. The population figures from the 1951 Census had been used as the base year against which relative changes were measured and this had had the effect of exaggerating certain changes in order to focus on the trends in areas of greatest gain or loss.

Map (B.1) showing council building for the whole period is, in detail, unlike any of the foregoing maps and illustrates how differing building rates tend to equalise themselves out. It nevertheless brings out the concentration into the north-east, thus the only authorities with quotients above 1.22 are Sunderland C B and R D, Boldon, Felling, Hebburn, Jarrow. From the core area moving outwards values decrease, though the area between 1.0-1.22 sweeps southwards to include Easington, Durham R D and Brandon. The area of lowest value (< 0.74) occupies a broad belt in the west from Bishop Auckland to Whickham, in the north-west Blaydon and Ryton form an isolated pocket with values between 0.75 and 0.79.

In total, there is evidence of a progressive concentration of council building relative to population, firstly into certain conurbation authorities in the north-east, and to a lesser extent upon the more prosperous mining districts in the east and centre. The west, as befits an area of economic decline, has a shortfall of new housing relative to its share of population in 1951. Nevertheless, it is important to recognise that council building is still a relative "equaliser" as shown by the fact that the range in value for the total period (1.33) is far below that for any of the three constituent periods. In this study council building has been viewed in an overall sense for the period 1946-66, and patterns interpreted as far as possible on a geographical basis. However it is necessary to remember that when individual programmes were carried out, much depended upon local circumstances and the personalities involved, along with numerous other intangibles.

The correlation coefficient measuring the relationship between the distribution of house building and the distribution of population at the time of the 1951 census at the local authority level, indicates a small negative correlation (- 0 36) This in itself does not provide much information, and in fact the situation, as well as the trends over time are brought out more clearly with the aid of the "Area and Index of Concentration(12)" For post-war public housing the index remained above 60 throughout, but this was considerably below the figures for private building (see P 121) It indicates that in spite of the lack of a general correlation between building and population, building has been concentrated into the populous authorities The area of concentration included 10 authorities during the first two periods, but this was reduced to 7 in the third, similarly the index increased from 60 2 (1953-59) to 66 7 (1960-66) to indicate the increased degree of concentration Between the first and second periods the trend, though slight, was in the opposite direction, with a greater dispersal of building relative to population The area of concentration has moved northwards and eastwards Thus after the first period (see Map B 1) Brandon, Spennymoor, Houghton, Hetton and Boldon were replaced by Hebburn, Washington, Chester U D , Seaham and Easington Whereas

Table (B 5) Areas and Indices of Concentration

	<u>1946-52</u>	<u>1953-59</u>	<u>1960-66</u>	<u>Total</u>
No of authorities	10	10	7	8
Index of Concentration	64 1	60 2	66 7	63 2

the area initially stretched from Wearside-Middle Tyne to Brandon and Spennymoor, by the second period it had retreated somewhat to the eastern coastal belt from Easington to Sunderland, and the Middle Tyne area, though there remained a reduced extension in the south of Durham R D and Chester U D. A more marked change occurred between the second and third phases, with a concentration into Middle Tyne, Wearside, and Easington. The anomaly of Shildon in the south-west was attributed by the Surveyor(13) to the beneficial impact of nearby Newton Aycliffe, where greater emphasis had been placed upon new industrial employment, than upon the building of new housing. Apart from this case, and the development of Peterlee in the South-east, the "urban core" of the conurbation authorities(14) comprised the area of concentration.

During the post-war period there has been a progressive concentration of activity into the populous north-eastern zone with the dual poles of Wearside and Middle Tyneside. For the complete period the picture represents a stage intermediate between that reached in the middle phase and that reached in the final phase.

Council Building During the Years 1919-39

For the period 1919-39 the Area of Concentration included twelve authorities against the eight for 1946-66. Despite this, the index of concentration was noticeably higher, 70.3 against 63.4, indicating the higher degree of concentration relative to population, before the massive council schemes of the major authorities which have been such a feature of the modern period. In the inter-war years Sunderland C B built only 4,850 houses against 22,000 since

1946 Before 1939 the emphasis was upon a broad belt of coal mining areas in the east and centre. It stretched from Easington and Seaham to Durham R D, the Chester authorities and Whickham. The only representative within the conurbations was Felling. Although five authorities were included at both periods(15), the emphasis shifted from the more prosperous of the mining districts into the conurbations and their fringe. The main area of loss was situated in the north and centre.

The movement towards the north-east has taken place gradually, from the starting point of the inter-war period when councils were first empowered to build houses for renting by the "working classes" (see P 85). This mechanism was used most in the mining areas which were reasonably prosperous. Areas with least building formed two groups, firstly, the depressed south-west where there was very little building at all, and secondly the main urban centres, where the private sector remained fairly strong. Subsidies were provided, but financial difficulties adversely affected the Tyneside authorities of Jarrow and Hebburn(16).

A comparison of location quotient values in the inter-war and post-war periods, reveals that the range in values was much greater in the earlier period, as was the inter-quartile range(17). After 1946 there was far greater standardisation of building programmes, although it would appear that demand factors (see p 80) are working once more towards a greater differential.

SECTION(2) The Location of Council Housing Developments in relation to the Growth of the Settlement Pattern in the Post-War Years

A detailed portrayal of the relative changes within the settlement pattern through the distribution of housing construction, will be attempted, by considering building ratios for individual settlements and also for wards and parishes in order to focus upon particular elements within built-up areas. Some indication of the extent to which building has been related to the distribution of population by wards and parishes in 1951 is given by the correlation coefficients, though once more these have to be supplemented by a more detailed

Table (B 6) Correlation coefficients for the relationship between council building and the distribution of population by wards/parishes

<u>Total Survey Area</u>	<u>Conurbations</u>	<u>Suburban Zone</u>	<u>Western Mining</u>	<u>Eastern Mining</u>
0 095	-0 303	0 632	0 300	0 036

analysis of building ratios for individual units. For the suburban zone there is a fairly high positive coefficient, which points to a situation in which a high proportion of existing settlements are growing more or less in accordance with their size. For the Survey Area as a whole and for the eastern mining districts, there is no significant correlation between the two variables. Within the Western mining districts there is a slight positive correlation and in the conurbations a small negative one. This gives some indication of the concentration, on the one hand into certain wards within the main settlements Bishop Auckland, Shildon, Spennymoor,

and on the other, into the peripheral wards which contained little population in 1951

Location quotients for settlements enable a comparison of the relative growth of different towns and villages, while the data relating to wards and parishes focuses upon particular elements within the built-up areas. Coal mining districts containing a large number of settlement clusters are probably best analysed by means of housing indices for individual settlements, especially as in some areas each community is divided into a number of sections by ward boundaries(18), so that each ward contains a number of parts of different settlements. By way of contrast the conurbation centres are of an entirely different scale and are best examined by using individual wards to bring out the zones of development

Building Ratios by Settlements

An analysis of a scatter diagram of settlement populations resulted in their division into eight size categories - viz -

(1) 1,000 and less (2) 1,001 - 2,000 (3) 2,001 - 3,500 (4) 3,501 - 5,500 (5) 5,501 - 9,500 (6) 9,501 - 15,000 (7) 20,000 - 30,000 (8) 100,000+

Housing construction was related to the population in 1951, in order that the ratios would measure progress from that point(19). In Figure B 3 settlements are shown by proportional circles which are shaded according to their building ratios(20). The area with the greatest concentration of settlements having high ratios is in the north-east. Here Felling, Jarrow and Hebburn are prominent, while smaller settlements on the conurbation fringe also have high

indices - eg West Boldon, Whitburn, Eastletown and New Silksworth. If the "growth points" are considered to be those communities which have ratios above 120 per thousand(21), they are found over much of the Survey Area, apart from their noticeable absence in the south-west, and south-east (due to the existence of Peterlee New Town). Ratios of the highest order (above 180 per thousand) occur in a number of villages which had populations in the order of 2-4,000 people, and which were well placed nuclei suitable for expansion, this group includes Brandon, Sherburn, Bowburn, Great Lumley and Penshaw. For those communities with ratios between 120-179 there is a marked concentration in a belt from Esh Winning in the west, running to Durham City, and thence eastwards to Houghton-le-Spring. Another group in this category occurs in the north-west with Consett, Moorside, Delves, Highfield and Binlaton. Ratios between 75 and 119 generally indicate that the settlements are maintaining their status quo with regard to public building. This group includes a high proportion of the largest centres of population, including Sunderland and South Shields, as well as many of the major colliery towns. There are three zones of concentration, the first is in the east and includes South Shields, Sunderland, Ryhope, Seaham, Murton, South Hetton and Wingate. The second group includes Crook, Willington, Bishop Auckland, Shildon, Spennymoor and Tudhoe in the south-west, an area where all the main communities are in this category. The next group in the centre, includes centres of varied size from Kimblesworth with 1,000 people, to Chester-le-Street with 15,000, intermediate between these are Sacriston, Pelton Fell, Pelton and Perkinsville. Over the remainder of the coalfield there is a thinner scatter of centres in the range

Ratios below 7% indicate varying degrees of decline. Between 15 and 74 there are a number of major mining towns, as well as Gateshead on Tyneside. In some cases sizeable housing schemes have been completed but they are small in significance when related to population. Settlements in this category form concentrations in the north-west, with Stanley, Annfield Plain, Benfieldside, Leadgate, in the south-east at Hetton, Easington Horden, Blackhall, Shotton and Thornley, and also in the string of settlements along the margins of the East Durham Plateau from New Washington to Easington Lane, including Washington Village, Washington Station, Shiner Row and Newbottle. Further settlements within this category include Birtley, Dunston, Blyden and a scatter of smaller places.

Generally places with ratios below 15 per thousand are totally unsuitable for building, though in the case of Consett and Durham City they were already built-up and their modern housing developments have taken place in separate communities. Although this category includes a large number of settlements, they are generally small in size and represent haphazard and ill-formed remnants of early mining colonisation. Defunct communities of this kind occur throughout the Coalfield, though there are most concentrated in the north-west and south-west, where they form close nets of settlement totally unsuitable for modern development located in areas of greatest economic decline.

The Relationship between Housing Ratios and Settlement Sizes

In a consideration of the distribution pattern of ratio values for various size categories of settlements it was found that the

conurbations complicated matters for a number of reasons. Generally the communities are of a much larger size and the various elements of growth and decay are all mixed together and not separate as in the mining districts, also a sustained demand for public housing has resulted in high ratios, particularly in Middle Tyneside. Thus for communities of between twenty and thirty thousand people there is a clear distinction between values obtaining in the conurbations (228, 136 and 128) and in the mining towns (90, 74 and 67). For most purposes comparisons will be made between settlements of different size categories within the mining districts.

Turning to the distributions in terms of median ratios (see Table B 7), there is a steady increase from nil for communities of less than 1,000 people, to a plateau level above 70 per thousand for those categories with more than 3,500 people. With the inclusion of the conurbation centres the value for the top category rises to 95. From the regression curve (see Graph A 1) it would appear that the median ratio reaches 70 per thousand when the population level

Table (B 7) Distribution of Housing Ratios According to Size Classes

<u>Size of Settlement</u>	<u>No of Settlements</u>	<u>Median Val</u>	<u>I Q R</u>	<u>U Q</u>	<u>L Q</u>
1,000	57	0	21 3	42 5	Nil
1,000 - 2,000	39	45 0	57 0	114 0	Nil
2,001 - 3,500	34	53 5	59 5	136 0	17 0
3,501 - 5,500	24	72 0	41 5	118 0	35 0
5,501 - 9,500	16	79 0	35 5	103 0	32 0
9,501 - 15,000	12	73 0	31 5	101 0	38 0
20,000 +	9	95 0	30 8	132 5	71 0
		74 0(22)			

reaches 4,200, and so within the mining districts the median ratio for all classes above this point is steady at between 70 and 79 per thousand. This points to a relative lack of council building in the smallest settlements and then broadly comparable levels for those with populations above 4,200. An examination of the inter-quartile range reveals that for settlements of between 1,000 and 3,500 people there is greatest variation within the middle section of the distribution and also widest range between the "growth points" and the great majority of settlements. Conversely, there is a somewhat greater degree of standardisation in building levels among larger settlements.

Building Ratios by Wards and Parishes

An analysis of building ratios by settlements suffers from a number of drawbacks, probably the greatest is the problem of scale when endeavouring to draw comparisons between communities the size of Sunderland (182,000) and those whose populations are numbered in hundreds. The use of wards and parishes generally introduces a greater measure of comparability although certain anomalies arise with large parishes which contain few people. It is possible, by switching attention to the units which go to make up the settlements, to focus upon specific zones or points of development.

A striking feature brought out by the map of housing completions by wards and parishes (Fig B 5) is the great scale of building in the north-eastern section. Fourteen of the total of nineteen wards with more than 1,000 completions are on the conurbation margins. The largest ward totals (23) are greater than the total achieved by Peter-

lee New Town (5,144) Outside the conurbations high building totals are sporadic in occurrence

The map of completions is best used in conjunction with that showing ratios of building totals relative to population (Fig B 4) For this purpose ratios were considered in terms of whether they represented (a) substantial growth, (b) conditions of equilibrium with some growth, or (c) static conditions usually with the inevitable consequence of decline The break points were chosen with the aid of a scatter diagram, but they nevertheless represent something of a subjective appraisal of values in relation to observations on the ground, and to the overall value for the Survey Area (96 per thousand) The tremendous scale of building in the peripheral

Table (B 8) Housing Ratios for Wards and Parishes

<u>Category - Ratio</u>	<u>No of Wards/Parishes</u>		<u>No of Houses</u>	
(1) > 180 per thousand	35	13.8%	54,754	51.8%
(2) 75 - 180 per thousand	52	20.6%	24,626	23.3%
(3) > 75 per thousand	167	65.6%	26,223	24.8%
Total	254		105,603	

wards of the conurbations has been the result of new extensions to the communities which have been pushing outwards on a united front from Wrekenton (South of Gateshead), through the Leam Lane area and the southern wards of Hebburn and Jarrow, to Marsden on the south-eastern edge of South Shields This zone is linked to that around Sunderland by a number of wards in Boldon and Sunderland R D ,

though it is necessary to point out that while these intervening areas have ratios in the top category, this has been achieved by sizeable additions to existing mining communities and so building has not been on the same huge scale, also their piecemeal developments contrast with the huge neighbourhood extensions rapidly encroaching into the mining districts. Communities like West Boldon, Boldon Colliery, Castletown and New Washington must have been stimulated to some extent by their nearness to the conurbations which seems to have had the effect of sustaining the demand for new council houses when it slackened elsewhere (see P 47). Comparable levels of activity have obtained in some of the inner conurbation wards with redevelopment schemes (24), but these represent small ratios when related to population.

Outside the conurbations and their fringe certain sporadic high values stand out, these are the outcome of two kinds of development, on the one hand the major regrouping centres, as in Peterlee, Brandon, Woodhouse Close (Bishop Auckland), Bowburn, on the other hand, the modern extensions to existing towns, as at Seaham (Colliery Ward), South Stanley, Chester le Street (South Ward), and Blaydon (Inlaton Ward). The wards which are included in the "growth" category of Map (B 4) extend in a belt running south-west to north-east from Bishop Auckland to Sunderland, which takes in the above-mentioned units, plus the wards into which the modern growth of Shildon, Spennymoor, Willington and Crook has been concentrated.

Areas with ratios in the second category (75 to 180 per thousand) form a sizeable cluster in the centre of the Survey Area, this extends laterally from Esh Winning and Sacriston in the west to Houghton

and Sunderland in the east, with a southern prong to Easington Lane and Murton. This area of general equilibrium contains a close network of medium sized colliery settlements, the development of some having been planned as part of the regrouping policy (e.g. Sherburn, Ushaw Moor, Esh Winning), while in others it was a natural outcome of their suitability as satellite communities for Durham City (e.g. Belmont, Witton Gilbert, West Rainton). Also in the vicinity of Durham and Chester le Street there are parishes with negligible building rates (see Appendix Table bc 11) containing villages like Aldridge, Edmondsley, Langley Moor and Broompark which are unsuitable for development, or else communities like Harraton, Shincliffe and Nevill's Cross in which private building predominates. In all, the central belt is the area of greatest growth outside the conurbation tracts.

Over much of the south-east of the coalfield the uniformly low building ratios are accounted for by the heavy commitment upon Peterlee New Town. Generally speaking, the closer the settlement is to the New Town, the greater its effect in suppressing growth. Thus Blackhall, Horden, Easington have ratios between 18 and 28, Wingate and Wheatley Hill around the 50 mark, while Murton furthest away from the New Town within Easington R.D. has a ratio of 100. The degree of selectivity exercised is due in part to the large size of the authority, which contains 85,000 people and ten large villages.

For the remaining western areas of the coalfield the representation of ratios by wards and parishes presents a very different picture from method (1) (see P 62). In the north-west there is

a greater equalising effect, but in the south-west it heightens the impression of concentration. Much of the area between Stanley, Consett and the west Tyne settlements, contains very little development. In many cases the major colliery settlements contain few modern houses, while there has been moderate concentration into smaller villages such as Burnopfield, Tanfield Lea, and Delves. Ward boundaries tend to divide settlements between various wards, thereby reducing still further the impression of concentration. On West Tyneside the three reasonably attractive communities of Whickham, Winlaton and Ryton have ratios above 100 per thousand, on account of their agricultural nuclei and pleasant situations, above the valley floor with its accompanying industry. Mining and industrial communities (e.g. Blaydon, Greenside, Chopwell, Swalwell) on the other hand, have been avoided by important developments.

In the south-west representation of ratios on a ward basis emphasises the degree of concentration of major housing estates upon particular wards, and their virtual absence in most other areas, except for a number of small reasonably attractive villages, such as Byers Green and 'itton le 'ear. The wards with high values are spread between all the major settlements of the district (30) including Whentbottom (Crook), Willington South, Middlestone (Spennymoor), Woodhouse Close (Bishop Auckland) and Thickey (Shildon) (see Appendix Table bc 11). It would appear therefore, that regrouping points have been too numerous to make the policy really effective in this area, especially in view of the economic contraction which has taken place.

The two methods of analysing building ratios have to some extent supplemented one another. They have been used to illustrate the relative levels of development in various settlements, and also more specifically, to focus upon the particular sections in which building has taken place. Furthermore, they give some indication of the implementation of the policy of regrouping or selective development, on the ground. In this respect it would appear that the policy has been most rigorously applied in the south-east, while in the west where economic contraction has made the need for regrouping even more urgent, it appears that the growth points were too numerous to be really effective. At the opposite end of the scale, highest construction levels have been achieved in the conurbations, with signs of a movement into parts of neighbouring authorities. Between the two extremes, the conurbations with high levels of activity, and those colliery districts with selective development and/or low levels of activity, the central area and the margins of the East Durham Plateau have experienced moderate levels of development, generally evenly distributed.

The Physical Expression of Council Housing Developments on the Ground

In terms of the physical expression of local authority housing developments on the ground and their relationship to the settlement pattern, there is once more a clear distinction between the conurbations and the mining districts.

Within the former areas new housing falls into four basic categories. For the central areas a number of redevelopment schemes

have been undertaken, these account for 2,360 dwellings in Sunderland, 1,080 in Gateshead, and 660 in Jarrow. On a smaller scale are the infilling developments on vacant land within the urban area, which in the case of Gateshead accounted for 670 dwellings. Numbers were much smaller in other areas. Of a similar kind are the peripheral estates which have extended estates whose construction was halted by the outbreak of the Second World War, Beacon Lough (682), Lobley Hill (703) and Coach Road (285) in Gateshead are of this type, as is the much larger Marsden Estate (2,436) in South Shields. The fourth category comprises the major peripheral estates comprehensively planned as neighbourhood units. The neighbourhood concept was adopted during the years when building was resumed after 1915, due to the realisation of the need for community facilities in large low-density housing schemes. Facilities have therefore been provided in proportion to the population to be served, relating to shopping, education, health, sport and recreation. It is these facilities, more than anything else, which differentiate post-war schemes from their into-war counterparts. Around Sunderland there are two great clusters of neighbourhood units in the north-west and south-west, each unit contains between 1,800-2,800 dwellings and houses from 4,400 to 9,700 people. On Lyneside, Fellin, contains the massive extension of the Leam Lane (3,974) - Wardley (628) estates, which are contiguous with the modern extensions of Gateshead (Wreken-ton - 1,372) and Hebburn (2,612). These peripheral housing developments have been affected by the degree of mining subsidence, some areas were sterilised for building, while in many others the National Coal Board specified particular types of semi-detached houses with

reinforced foundations, in order to qualify for their subsidies(25) The slowdown of mining and the use of modern building techniques have reduced the significance of this factor. In 1955 a Green Belt was created to prevent the excessive growth and merging of Tyneside and earside. So far it has operated in curbing the extension of South Shields and Gateshead most of all, though in 1964-65 more land was released for development at Harlow Green, thereby producing a renewed surge in the outward expansion of Gateshead.

The housing layouts of the modern neighbourhood units are mostly conventional in design with low density semi-detached housing, though later estates tend to be more varied and contain larger numbers of terraced houses and flats. This is illustrated by the progressive increase in residential densities for housing schemes in Sunderland. The early post-war schemes at Thorney Close, Pennywell and Harrington have densities of 11 to 12 houses per acre, Town End Farm built between 1960-63 has a density of 25 houses per acre, and Gilley Law built 1965-66 a density of 45 per acre obtained with the use of flats. Higher densities also prevail in the central re-development areas, with Beverley Court, Monkwearmouth (1960) having a density of 33 dwellings per acre, and Fame Dorothy Street, 36 per acre. Later schemes have more varied layouts, variants of the Radburn Plan are found in the later phases of the Leam Lane Estate (Felling), Whiteleas and Biddick Hall (South Shields), Downhill and Whitherwhack (Sunderland). Recent developments have endeavoured to bring greater variety to the housing, to make the estates more attractive and at the same time save land. In total, the area in residential use in the conurbations expanded by between 30 and

40% during the period 1946-66, while the population was static

Future housing is to be channelled increasingly into separate communities, such as Washington New Town and Silksworth Township. The former will be dependent upon the voluntary movement of population(26), the latter is being developed by Sunderland Corporation to accommodate 20,000 drawn from the expanded area of Sunderland C B (27). In view of past experience, modern schemes aim to build for a greater balance in age and household structures.

With regard to the colliery districts, much has been said concerning the inherent problems of the settlement pattern and the difficulty of expanding it in the modern period to give convenient and attractive communities conducive to modern economic developments (see P 23). In response to the recommendations in the County Development Plan, council housing has been more selective than in previous periods. Nevertheless it must be remembered that the post-war housing drive was in full swing when the Development Plan was produced, and so housing schemes were already underway in some settlements which were not suitable for expansion. Also it is sometimes very difficult for local councils to resist pressures to build in all the larger communities no matter how ill-suited for expansion. The refusal of councils to build in a number of notable cases, such as Langley Moor, have been responsible for the continuing furore in local politics on this issue. In a number of other cases settlements classified as unsuitable for development in 1951, possess locations whose advantages overruled this, Ryhope and Castle-town near Sunderland are cases, as are Carrville, St Helen Auckland and Sunniside (Houghton) close to expanding coalfield towns.

A major problem has been to weld together 19th century terraces and inter-war estates which were frequently built in isolation from the settlement as a whole. The creation of a community with a real focal point is generally easier where there is an agricultural nucleus, even then the settlements may have straggled outwards to such an extent that new estates are out on a limb, while the heart has decayed and no longer provides a focal point. This is a common feature of the linear settlements in the west and along the margins of the East Durham Plateau, with settlements like Spennymoor, Houghton and Hetton.

Many of the post-war estates form continuations of estates begun in the 1930's, though large comprehensively planned neighbourhood units have been attached to the main towns and better regrouping villages. The only development comparable in size with those on the conurbation margins is Peterlee with 5,140 dwellings, smaller neighbourhoods have been attached to Durham (Framwellgate Moor-950), Bishop Auckland (1,610), Washington (Coach Road - 610) and Chester-le-Street (West Lane - 770). The best examples of neighbourhood units in regrouping centres are those of Brandon (1,050) and Bowburn (760). Throughout the colliery districts most local authority housing developments have taken the form of peripheral extensions, very little re-development has taken place. In the early post-war years new estates were often related to "long-life" collieries. A number of these collieries are now closed and so the centres concerned seek to attract new industries by having the attraction of a readily available labour pool. This is the case, for example with Brandon, Bowburn and Spennymoor.

SECTION(3) A Consideration of Factors Underlying the Need for
Housing Construction

The detailed picture of council building so far outlined needs to be related in some way to the underlying influences which affect the demand for new dwellings in the public sector, in this context it is a misnomer to refer to them as demand factors, because by considering them in retrospect they partly reflect what has happened in addition to having conditioned it. Nevertheless, it is hoped to provide a demand framework. There are certain problems of quantification, which will not be dealt with here, as they are beyond the scope of this study.

The factors to be considered are -

- (1) Demographic changes
- (2) Population migration
- (3) The reduction of overcrowding
- (4) Slum clearance
- (5) An increased vacancy rate

Cullingworth(28) has pointed to the continuing demand for new accommodation in parts of Lancashire with static or declining populations, which stems from increased rates of household formation. Changes in demographic structure are resulting in smaller family sizes, marriage rates above the rates at which households 'die out' and general increases in headship rates.

Throughout the period 1946-66 County Durham had a birth-rate above, and a death-rate marginally below, the national figure(29). Heavy outward migration has kept population increases down; for the coalfield area there was a 1.9% increase between 1951-61, and a 0.6%

decrease between 1961-66. Out of the total of 28 authorities, 11 recorded decreases between 1951-61, and 13 between 1961-66. In terms of household structure the area started with larger families than in the country as a whole, but the rate of increase in households for 1951-61 (0.93% p.a.) was below the national figure (1.21% p.a.). For 1961-66 the Durham figure remained the same, though the pattern of distribution altered radically, and there were two categories of diverging trends, illustrated by an increase in the inter-quartile range from 0.48 to 0.95. During the decade 1951-61 areas of greatest increase were confined to the conurbation margins in Felling, Whickham, Boldon and Sunderland R.D. (see Fig. BC 7). Lowest values were found in West Durham, on Tyneside and in Hetton. For 1961-66 values increased (> 1.7% p.a.) in a broad belt closely corresponding to the zone of suburbanisation (see p. 108). There was a fall-off in the rates of increase in households which affected two main areas, the inner conurbation authorities, and the declining colliery districts.

Net out-migration from the Survey Area increased from 0.67% per annum for 1951-61, to 0.82% per annum for 1961-66. However the number of authorities with losses fell from 23 to 19, due to the increased scale in certain areas. Once more there is a case of diverging trends between the zone of suburbanisation, the conurbations, and the static colliery districts (see Appendix Table bc 14)(30). Migration is a high selective process on account of the differential mobility of different age-groups. In the mining districts there has been a considerable loss of school-leavers and young adults due to the lack of employment opportunities. Durham City attracted

school-leavers, but with its low powers of retention there was an outflow of young adults(31) This process was reversed in the suburban fringe areas of Boldon and Sunderland R D , where there was a loss of school-leavers and a gain of young married couples In the major urban centres there was a gain of young people seeking employment, but a loss of young marrieds seeking better living conditions Areas of greatest population loss, especially in the mining districts, have experienced an increased bias in their populations towards older age-groups, and this leads to a sizeable demand for old people's bungalows

A study of housing construction in the East Midlands(32) stated, "It is all too often forgotten that because buildings are immobile, migrations affect the demand for new construction in one direction only, namely that of increases in population" In this connection local authorities tend to avoid the responsibility of housing "outsiders" without first a period of residential qualification for the housing list, and in fact internal population movements have greater immediate significance in the private sector However movers may pass through a transitional phase in private rented accommodation before obtaining a council letting

Traditionally County Durham is an area with larger than average families, a high birth-rate, a very high proportion of small dwellings and poor living conditions in general For these reasons it has faced serious problems of overcrowding The Overcrowding Survey of 1936 gives an indication of the seriousness of the situation at the end of the war, because, despite the house building of the years 1936-39, the cessation of building in the years 1940-45 must have

produced overcrowding at comparable levels in 1946. For England and Wales, 3.8% of families were living in overcrowded conditions (33). County Durham with a figure of 12% was the most overcrowded County and the Survey Area contained the authorities with the worst figures, conditions were the worst in the country with the three most overcrowded County Boroughs and eight of the twenty most overcrowded Boroughs and Urban Districts. The Tyne-Tear complex had the most continuous serious overcrowding with Hebburn, Jarrow, Felling, Gateshead and Sunderland C.B. above the 15% level. Much of this was accounted for by the very small densely packed "flatted terraces" peculiar to the area. In the colliery districts the incidence of severe overcrowding was more sporadic. The worst areas were in the north-west at Annfield Plain, Benfieldside (34) and Chester R.D., and in the south-east at Easington. Overcrowding was least serious in two areas, the relatively prosperous belt in the east with Boldon, Washington, Houghton, Seaham, Durham R.D., and in the south-west an area which included Spennymoor, Crook, Willington (35), Bishop Auckland and Shildon, where economic decline set in earliest due to the exhaustion of coal seams and lack of alternative employment.

In census material relating to overcrowding, its definition has varied, and the point at which it was regarded as serious has lowered as living standards have risen. Overcrowding is therefore regarded merely as a useful comparative measure. In the 1951 Census 5.5% of Durham's population was living at a density above 2 persons per room, which represented a considerable decline from the 1931 figure of 20.3%. Nevertheless, the figure was still the worst in the country. Within the Survey Area the main difference

between Tyneside-M'carside, and the colliery districts, lay in the percentage of households overcrowded, rather than in the percentage of population living at densities above 2 persons per room (see Appendix Table bc 15) This points to generally smaller households being overcrowded in the major urban centres

Using a number of tables from the 1951 Census Burnett and Scott(36) took several criteria of housing conditions to delimit the major "Black Spots" in the country The factors considered were, the percentage of dwellings with 3 rooms or less, the proportion of households without a fixed bath, the proportion without the exclusive use of a toilet and the percentage of dwellings rates at £10 or less Two of the ten "Black Spots" were partly or wholly within the Survey Area --- "Tyneside - Sunderland", and "the Durham Coalfield" On all counts the latter showed up badly, and the former was on a par, except as regards rateable values Despite this, a lower proportion of houses had been scheduled for slum clearance than in other "Black Spots" The authors concluded that the "Durham Coalfield" contained the greatest concentration of sub-standard housing in relation to the total stock of any area in the country

Despite the considerable alleviation of overcrowding during the 1950's county Durham remained worse off than any other County. The proportion of the population living at over $1\frac{1}{2}$ persons per room fell from 18.5% to 9.7%, and of households from 11.0% to 4.9% In 1961 the bias of overcrowding remained towards the northern section, but between 1961-66 there was accelerated improvements, largely due to the slum clearance drives of authorities like Gateshead, Jarrow and Sunderland Areas which began to lag behind were

the South-west and Seaham-Hetton

Overcrowding has been greatly alleviated since 1946, though space standards remain lower than in most other regions, in addition to new building, outward migration has helped to ease the problem

In view of the unreliability of figures relating to the designation of slums, and the impracticability of defining a slum, it is proposed here to deal with the number of houses cleared between 1956-66 in the slum clearance drive. The numbers cleared range from 259 in Boldon, to 4,410 in Sunderland C B. In order to draw comparisons, the number of slums cleared by each local authority was represented as a percentage of council house completions(37) and as a ratio per thousand inhabitants (see Appendix Table bc 16). Slum clearance assumed great importance to the programmes of most western authorities, though its significance appeared much less when measured against population. It was also extremely important on Tyneside (Gateshead, Jarrow, Hobburn) and the neighbouring authorities of Chester R D and Houghton. Slum rehousing was of least significance relative to building levels in the eastern section, plus Durham M B and R D in the south. In this respect Consett formed a noticeable anomaly in the west. When examined in terms of the number of slum cleared per thousand inhabitants the highest values were more localised they were found in Jarrow, Spennymoor, Brandon, Houghton (all > 45%). Moderate values obtained over a broad belt in the north and centre, while lowest values were recorded by Boldon and Sunderland C B, by a south-eastern group comprising Chester U D, Durham M B /R D, Easington, Seaham, and by Consett and West Tyneside.

There is a general belief of the need to build for a certain margin of properties to enable a greater mobility between different types of property, according to the stage reached in the family cycle. So far forward planning of this kind has only been well developed in the case of Sunderland with its large stock of varied house types situated in varying locations.

The Allocation of Council Tenancies

In an examination of the pattern of allocation of council tenancies, reliable figures in a sufficiently detailed and usable form were only readily available for the central colliery district(38). This provides some pointer to the overall picture, though care must be taken in making general deductions. The figures (see Table B 9) represent a pattern which is repeated fairly consistently though with changes in emphasis from one area to another according to variations in the "housing climate"(39). The statistics indicate two important "break points" in 1957 and 1964, which mark changes in direction concerning allocations. During the years of the early post-war housing drive the two chief categories were the relief of overcrowding (31%) and the housing of sub-tenants (29%), especially married couples living with parents, Medical officer of Health recommendations on account of T B and other respiratory complaints accounted for 13%, while rehousing people from condemned property accounted for a further 11%. By the middle phase (1957-63) attention shifted to housing people displaced by slum clearance (40%) and the housing of old people, their combined allocation rose from 14% to over 60%. The relief of overcrowding was much less pressing than

Table (B 9) Allocation of Council Tenancies

<u>Reasons</u>	<u>1946-56(%)</u>	<u>1957-63</u>	<u>1964-66</u>
Overcrowding	31 0	10 0	6 0
Sub-Tenants	29.0	20 0	26 0
Slum Clearance	11 2	40 4	25 2
Aged Persons	2 5	19 7	16 5
M O H Recommendations	13 1	2 4	-
Miscellaneous	10 0	7 5	26 3

in the earlier period, though allocations to sub-tenants was more stable, and in fact has remained so throughout. A further re-orientation of policy in 1964 and the restoration of "general needs" subsidies, meant that rehousing people displaced by slum clearance slipped in importance and was stabilised at a lower level than during the years of the slum clearance drive. The housing of old people remained important, and lettings to sub-tenants increased, with young married couples living with parents being largely responsible. Rehousing people because of overcrowding and respiratory complaints were no longer important categories.

In this general discussion of the factors underlying the need for new accommodation, the various components have not been quantified, nor has the demand for specific types of accommodation been considered. It is difficult to separate out the demand for public and private rented accommodation, and even private accommodation for owner occupation to some extent, in addition not all demand results in new construction. For County Durham a large part of the total

demand during the period 1946-66 has been concentrated in the public sector. As Donnison(40) points out "in the housing field, as in other spheres of investment, stability places a specially heavy responsibility upon government to bring about the modernisation and replacement which elsewhere occur as a by-product of more rapid and widespread economic development"

Speculative builders can respond to a demand for dwellings for owner-occupation wherever it may arise, as they are not tied to particular locations. Local councils, on the other hand, are concerned with meeting the need for accommodation which exists within their own administrative areas. In the case of council programmes this does not mean that areas of greatest need will necessarily respond with the biggest programmes, such intangibles as the policies of councils and the personalities involved also have influence. The attitudes of progressive authorities may work against the "natural trend" of an area, for example Shildon was spurred to activity partly as a result of nearness to Newton Aycliffe and built more houses (see P 48) to better space standards. There was a similar trend in Bishop Auckland after 1964 when a large estate of houses was built to Parker-Morris standards. In Consett the council endeavoured to stimulate development right from the early post-war years by providing plots for the erection of expensive houses in the prestige communities of Ebchester and Hamsterley Mill. More recently the council built houses for sale in Leadgate (1966-67). Such schemes represent attempts to encourage a social balance in an area struggling against locational drawbacks. By contrast certain other councils actively discouraged private builders and

thereby failed to realise the potential of their location(41)
 Local variations and idiosyncracies are important, though they
 should not detract from the geographical interpretation of the
 overall pattern

SECTION(4) The Housing Programme in England and Wales since the
 Second world war

During the period since 1946 both the public and private
 housing sectors have been strongly influenced by government measures
 aimed at guiding the role of the construction within the national
 economy. A brief examination of these measures aids the interpretat-
 ion of developments in County Durham

During the war years 1939-45 there was a virtual cessation
 of building, while over the same period 208,000 dwellings were
 destroyed, 250,000 were rendered unfit for habitation, and a further
 250,000 were severely damaged(42). These figures added to the hous-
 ing shortage in existence in 1939, as did the increase of 804,000
 families requiring accommodation. The total housing shortage in
 1945, estimated at around 1,350,000, was of crisis proportions. This
 figure took no account of the needs arising from the replacement of
 obsolescent and unfit dwellings, these could not be tackled during
 the initial stages of the housing drive.

Before the "permanent housing" programme was fully implemented
 emergency accommodation was provided by the patching up of war
 damaged dwellings, the conversion of large houses and the erection
 of temporary prefabricated dwellings. It was also essential to
 restore the construction force to full strength. With the aid of

tight government control over all aspects of the building industry the way was prepared for the housing drive to begin. Controls extended over house designs, layouts, methods of construction and materials. The Socialist Government elected to power in 1945 believed that as "housing need" rather than the ability to pay was to be the chief criterion in the allocation of housing. Exchequer subsidies should be extended to cover all house building. Also quotas were to be imposed which would limit private building to a minor subordinate role. Local housing programmes were rationed according to the level of "housing need" and allocations to private builders were determined in the light of resources and the size of the council building programme. With these various measures in force building by local authorities increased dramatically, from 22,000 in 1946 to over 175,000 in 1948. The restrictions on private building, however, meant that its share of total house building fell from 55% in 1946 to less than 15% in the years from 1948 to 1951. In this way the first stage of the housing drive was implemented rapidly, but as early as 1947 it was affected by the set-back of the balance of payments crisis. In addition the rush to start new building overloaded the construction industry. The national target had to be reduced from 240,000 dwellings per annum to 200,000, but even this was not easily attainable in the face of the balance of payments crisis. Total house construction after reaching a peak level of 206,000 dwellings in 1948 fell to the 170,000 mark in the years 1949 to 1951. This process of utilising house building as one of the principal regulators of the economy has been used on a number of other occasions in the post-war period(43). Apart from holding back most council

building programmes, the prevailing economic conditions were also responsible for a reduction in the number of building licences granted to private builders. The number of private houses erected fell from 40,000 in 1947 to 25,000 in 1949 and then to 21,000 in 1951.

The first phase of the post-war housing drive was brought to an end by the change of government in October 1951 when the Conservative Party was elected to power. By this time the shortage of materials was easing and the general economic conditions permitted an expansion in the housing programme. The relaxation of building controls begun by the Labour Government was continued, private builders were gradually given more room to manoeuvre so that there was continuous expansion after 1951. In the initial period of Conservative government expansion was more significant in the public sector, and it was only later that the emphasis shifted to private enterprise through the fostering of owner occupation. The first objective of the administration was to reach the total of 300,000 dwellings per annum promised in the election campaign. To this end local authority building was aided by increased subsidies. Also the administrative control of council programmes by means of allocations was replaced by a more expansionist policy of targets. Public building reached its post-war peak at 220,000 completions per annum in the years 1953-1954, but in order to attain this level there had been a reduction in housing standards especially with regard to floor areas.

Once the combined level of public and private housebuilding had reached 300,000 dwellings per annum, (in 1954), attention was

turned to other problems in particular those of maintenance, improvement, and the resumption of slum clearance. The years 1954 to 1957 saw a complete re-orientation of the national housing programme. Firstly, controls on private construction were eased and then licencing was finally abolished in November 1954, this helped bring about the overloading of the construction industry. Partly as a consequence of this and partly as a result of the general easing of the housing shortage, concern over the total cost of Exchequer subsidies, and a preference for owner-occupation on the part of the governing party, local authorities were persuaded to restrict their programmes to the number of houses required for slum clearance purposes. Exceptions were made where private enterprise was unable or unwilling to meet general needs.

The 1956 Housing Subsidies Act marked the end of indiscriminate government subsidies. In their place specific subsidies were aimed at fostering certain kinds of building, in particular for slum clearance, for overspill and for the housing of old people. However, subject to the restraints imposed by rising interest rates, higher land prices and building costs and the withdrawal of general subsidies, local authorities were given greater freedom to determine their building policies and were no longer obliged to contribute a subsidy from the rates before claiming Exchequer Subsidies. Following the measures directed at a return to quasi-market conditions the private contribution of total construction rose from 14% in 1951, to 26% in 1954, by 1958 it exceeded the level of public building and reached 63% in 1961.

The 1961 White Paper on housing set out its aims much the same

as its 1953 predecessor Public building was to cater for slum re-development, overspill and the relief of overcrowding, but as areas with worst problems often possessed the poorest resources extra help would be provided in such cases

Between 1960 and 1964 there was little change in the relative standing of public and private building. In the 1964 General Election, housing had once more become a major issue. Dennis (44) attributes this to - (a) the rapid increase in households requiring accommodation, (b) the increased birth-rate of the 1950's, (c) the continued demise of the private land-lord, despite the repeal of the Rent Act, and the resulting shortage of renting accommodation and (d) the publicity given to homeless families

With the return of the Socialists to power, it was therefore inevitable that the public sector would be drawn back into deeper involvement, between 1964 and 1966 the construction level rose from 126,000 to 152,000, while the private contribution was stabilised at the 200,000 mark. It was proposed in "The Housing Programme 1965 to 1970", that the total building level should be boosted to 500,000 dwellings per annum, to be equally divided between the two sectors. The large expansion envisaged for council building would require the re-introduction of general needs subsidies. In addition, the construction level would be boosted with the aid of industrialised building methods, plus the general modernisation of the construction industry, the use of "forward programming" of housing requirements and also of regional and local allocations designed to give first priority to relieving the shortage of houses to rent in the conurbations

The effect of new measures would not have been fully apparent by 1966, also delays have been experienced in their introduction due to the economic crisis, in which context building was used once more as one of the regulators of the economy

House Building During the Inter-War Years (1919-39)

Prior to 1914 most houses were built by private builders and investors for renting. After 1918 increased building costs and inflationary conditions forced investors to seek alternative outlets. As a result, the extremely low level of building led to the government direction of local authorities to provide houses for renting by the "working classes". Subsidies were used for this purpose, after 1933 these were only retained for slum rehousing and the relief of severe overcrowding.

Another new feature of the inter-war years, was the development of private building for owner occupation, which was supported by a new form of financing introduced by Building Societies. Construction grew slowly in the early years and had to be aided by subsidies, but by 1923 it took over from the public sector as the main provider of houses. After 1929 construction increased without the aid of subsidies. The foundations of the private housing boom of the 1930's were laid during the depression years, it was later sustained by a combination of favourable circumstances. Building Societies proved to be a popular outlet for investment and so were able to lend large amounts of money. Furthermore interest rates declined after 1932, and from 1928 building costs decreased to a low-point in the years 1932-35. As the capacity of the industry

increased large speculative building firms emerged in the main centres of population

Private building for owner occupation and public authority building have remained the principal providers of housing in the years since 1946. The shift in emphasis with the public sector providing 56% of the total, against 28% during the earlier period, reflects the acceptance of a deeper government involvement in the economy.

A Comparison of Post-War House Building in the Northern Region and in England and Wales as a Whole

The Northern Region achieved its highest level of building relative to other regions during the housing drive of the early post-war years 1946-51 (see Appendix). The region benefitted from the system of allocations, plus the fact that most building was in the public sector, thus the region contributed 10% of the total in this field, a proportion in excess of its share of the population (7.1%). The region's share of private building was much lower (5.4%), but it was the highest proportion achieved in the post-war years. Private building was at a very low level and so the North's share of total building for 1946-51 was 9.2%. During the 1950's there was a decline in the public sector to 9.2% of the national total for 1951-56. Public building was stabilised at this point throughout the 1950's, but the share of total building fell as a result of the increased significance of private housing and the region's falling share (4% for 1951-56). By 1958 private completions exceeded public completions for the first time. The North's share of total building

fell to 8.2% for 1946-56, 7.9% for 1946-60 and 7.4% for 1946-66. The position of parity for the whole period 1946-66 was obtained by the high rate of public building and in the face of the lowest level of private building for any region. During the 1960's the position worsened for two reasons. Firstly, the region continued to lag in the private field, despite a slight improvement, with 5% of the total for 1960-66. The other factor has been the relative decline in the public sector, down to 8.5% for 1960-66, against 9.5% for the years 1946-60. This happened at a time of revival within the public sector.

The North's relative share of total post-war building (see Table B 10) has been more favourable than the figures for the North-West, Yorkshire-Humberside, the South-East and South Wales, but it hides the fact that the construction level for 1961-64 was

Table (B 10) The Percentage Distribution of House Building for 1946-66

<u>Region</u>	<u>% of Total Population</u>	<u>% of Public Housing</u>	<u>% of Private Housing</u>	<u>% of Total Housing</u>
North	7.1	9.3	4.9	7.4
Wales	5.9	6.1	3.9	5.1
Yorkshire	10.0	10.4	8.6	9.6
North West	14.5	12.5	12.0	12.3
South East	35.2	32.3	37.8	34.7
West Midland	10.2	11.4	11.6	11.5
East Midland	16.8	7.4	7.9	7.6
East Anglia	3.2	3.5	4.3	3.9
South West	7.4	7.5	9.6	8.4

amongst the lowest, and by 1965-66 had increased only very slightly, while other regions registered substantial improvements, the number of completions per thousand inhabitants for 1961-64 was 5.7 against 5.9 for England and Wales, but by 1965-66 it was 5.9 against 7.3 (see Appendix Table bc 17). During the 1960's the construction slipped behind all other regions. In addition to private construction remaining at a lower level than elsewhere, the public sector failed to respond to the general revival. Nevertheless, the major weakness in the housing situation has been the failure of private building to expand at rates comparable with other regions, only 29.3% of total building (1946-66) was in the private sector, a figure much lower than that for any other region. The national share was 43.9%, and during the peak years of private building, 1961-64, values ranged from 48.9% for the North to 78.9% for East Anglia, the North alone was below the 50% level, and the national figure was 61.6%.

Regions with most similarity to the North were Wales, Yorkshire-Humberside and North-West, although in the case of the North the divergence from the national situation has been greatest throughout. It has the smallest proportion of private housing, the largest excess of public housing relative to population, and therefore the greatest deficit of private housing. In addition, whereas construction has increased substantially in the other regions during the early 1960's in the North this has been least noticeable.

National Trends and those of the Durham Coalfield

The Durham Coalfield contains over one-third of the population

of the Northern Region, and exhibits many of the same characteristics, but in an even more extreme form. For instance, during the years 1946-66 only 21% of completions were in the private sector, against the region's figure of 29% and 44% for England and Wales. In the peak period 1961-64 it only reached 41%, compared with 49% in the Northern Region. However, the Coalfield and Northern Region received the same overall share of housing relative to population, the location quotient values at 1.04 indicate a construction level marginally above their share of population. In the Coalfield this was attained by an even greater reliance upon public authority housing (L.Q. 1.46 against 1.33). Unlike the region as a whole, the Coalfield substantially increased its level of building after 1962, largely through the efforts of such large authorities as Sunderland C.B. and Gateshead, and medium-sized ones like Bishop Auckland and Chester R.D. (see P. 48). The graphs of annual completions (see Graph BC 5) illustrate that both the Coalfield and England and Wales exhibit similar trends, although there are differences in the degree of oscillation between peaks and lows. Trends for total completions exhibit three peaks in 1948, 1954-55 and 1965-66 separated by lows in 1950-51 and 1958-63. Whereas in Durham the peaks were of similar magnitude (in the ratio 34 : 100), the equivalent levels nationally varied more widely (59 : 100). The decline of 1958-62 was greater in Durham, to 92% of the overall mean, as against 98.6% nationally. Successive construction peaks in the whole country have increased to a greater extent than in Durham, due to the greater role of private enterprise.

Within the public sector (see Graph BC 2) a noticeable feature in the case of Durham has been the wide difference between the 1948 peak and the 1950-51 low, the percentage fall was more than twice the national figure. This sector has had a major role in shaping the trends for Durham, as reflected by the fact that the 1948 peak was marginally above that of 1953-54, while nationally the latter was substantially the greater. Expressed as a percentage of the 1946-66 mean and weighted according to the ratio per thousand inhabitants, the figures for Durham were 213% in 1948 and 207% in 1953-54, against national means of 128 and 162. This gives a clear indication of the magnitude of the area's housing drive during the early post-war years. Represented in the same way the third peak (1965-66) was 160 for Durham, and 111 for England and Wales. Comparison of trends (see Graph BC 5) reveals that in Durham in addition to the swifter initiation of the first stage of the housing drive, there was also a more gradual decline during the late 1950's.

Private housing construction presents a very different picture. It has been seriously under-represented and the location quotient for the whole period is only 0.5. Notwithstanding the differences relative to population, Graph BC 5 illustrates that the area followed national trends quite closely, though generally with a lag of between one and two years. The Durham peak of 2.44 completions per thousand inhabitants (in 1965) was only 56% of the national peak (4.38 in 1964).

Changes between the Inter-War and Post-War Periods

In common with the country as a whole Durham more than doubled

its number of public authority houses in the post-war years. The area's share of the national figure fell from 4.4% to 3.7%, but

Table (B 11) Proportion of Housing stock built 1946-66

	(1) Public Authority	(2) Owner Occupied	1 and 2 together
Durham Coalfield	67.8	42.3	60.1
England and Wales	71.7	43.2	55.6

Table (B 12) Proportion of National Total

	Population (%)	Public Building Location Quotient	Private Building Location Quotient	Total L Q
1919-39	3.05 (1921)	1.45	0.43	0.71
1946-66	2.52 (1951)	1.46	0.50	1.04

when related to the share of national population in 1921 and 1951, the index remained at the same level. For private building the index rose from 0.43 to 0.5, despite the sizeable fall in number built from 40,000 to 28,500. The greater significance of public building in England and Wales resulted in its increase from 28% to 56% of the total, and in Durham from 56% to 79%, enabling the area to increase its share of total building relative to population from 0.71 to 1.04.

As the Coalfield achieved parity overall for the years 1946-66, everything points to the crucial importance of the public sector, and in particular the early housing drive with its twin peaks of 1948 and 1953.

References to Chapter IV

- (1) Quaterly Housing Returns of the Ministry of Housing and Local Government
- (2) Populations recorded in the 1951 Census provide the earliest accurate figures for the post-war period, against which changes can be measured
- (3) Including houses built by Peterlee New Town Development Corporation
- (4) Opinions expressed in the council offices of Whildon and Bishop Auckland by the respective Surveyors
- (5) Overspill 9,500 people
- (6) Borough boundary extended in 1968 to include part of Boldon U D
- (7) J B Cullingworth, Trends in English Housing A Report on the 1962 Rowntree Trust Housing Study, London, 1965, p 61
- (8) Location Quotients represent a local authority's share of council building relative to its share of the population of the Survey Area
- (9) Jarrow, Hebburn, Felling, Gateshead
- (10) Seaham, Hetton, Crook, Bishop Auckland, Spennymoor, Stanley
- (11) The scale divisions used in the maps were the same in each case. A compromise scale was obtained from the scatter diagrams of values, utilising the Location Quotient of one as the mid-point, and other points (1.22 and 0.74) striking a compromise between the various upper and lower quartile values
- (12) The Area and Index of Concentration is obtained by ranking authorities according to their building indices, then moving

down the column and summing their building figures until half the total is achieved. This generally involves part of the figure of the last authority to be included. These authorities comprise the "Area of Concentration". The "Index of Concentration" is obtained by summing their populations and representing this as a percentage of the total population. The resulting figure is subtracted from 100 to give the index figure. Thus the higher the figure is above 50, the lower is the coincidence between the distribution of the two phenomena. See J. I. Alexander, Economic Geography, Englewood Cliffs, N. J., 1963, pp 597-599.

- (13) Mr Patterson, 1967
- (14) Excentions are Gateshead and South Shields
- (15) Boldon, Sunderland R D , Felling, Durham R D , Easington
- (16) Information from D A Kirby, 1968
- (17) Range 2 40 against 1 31, I Q R 0 42 against 0 21
- (18) Most notable area is Stanley U D
- (19) 1951 is the earliest year after 1946 for which accurate population figures are available
- (20) 1 > 180 per thousand, 2 120-179, 3 75-119, 4 15-74,
5 < 15
- (21) The figure for the Survey Area is 96 0
- (22) Figure for mining settlements only
- (23) Hylton Castle (7,733), Thorney Close (5,387), both in Sunderland C B
- (24) Colliery (786), Monkwearmouth (730) in Sunderland, Chandless (775) in Gateshead, Central (695) in Jarrow

- (25) Information from Sunderland Borough Surveyor's Office
- (26) M Franklin, "Washington New Town", *op cit* , p 776
- (27) April 1967, Sunderland C B expanded to include Sunderland R D
- (28) J B Cullingworth, Housing and Local Government in England and Wales, London, 1966
- (29) Average figures (per thousand) England and Wales B R 16 8, D R 11 6, County Durham, B R 18 5, D R 11 5
- (30) Between the two periods I Q R increased from 0 28 to 1 04
- (31) J W House and E M Knight, Migrants of North East England, 1951, Papers on Migration and Mobility in North East England, No 2 Newcastle, 1965
- (32) D A Turin, The Geography of Housing Output A Regional Study, R I B A Conference, July 1967, p 8
- (33) Overcrowding was defined by a complicated procedure using tables relating "permitted numbers" to dwelling standards, in terms of the number and size of rooms, and the age-sex composition of people sharing the same room
- (34) Two Urban Districts in existence before the amalgamation of six separate authorities into Consett U D and Stanley U D
- (35) Crook and Willington were later amalgamated
- (36) I T Burnett and S F Scott, A Survey of Housing Conditions in the Urban Areas of England and Wales, London, 1960
- (37) The number of households rehoused is usually greater than the number displaced
- (38) Chester U D and R D , Durham R D
- (39) D V Donnison, The Government of Housing, London, 1967, p 60

- (40) Ibid, p 160
- (41) This is true of Brandon, and was true of Houghton before its colonisation by the major building firms of W Leech and G Wimpey
- (42) A J Merrett and A Sykes, Housing Finance and Development, London, 1965
- (43) D V Donnison, The Government of Housing, op cit
- (44) Ibid

CHAPTER VPRIVATE ENTERPRISE HOUSE BUILDINGSECTION(1) Post-War Building Trends

General trends in private building for sale have been less complicated than those in the public sector. Apart from the much lower level of private building than in the country as a whole (21% of total construction against 44%) the trends have followed the same lines except for a slight time-lag. The restrictive influence of building licencing was removed in November 1954, when government policy substituted financial measures for administrative controls. The trend curve for the Durham Coalfield shows a continuous increase after 1953, though the level of private building has never surpassed that of public building. In England and Wales private construction exceeded the public level after 1958. Within the Survey Area (see Appendix Table bc 1) the rate of increase has not been regular. Three periods when it slackened or even halted occurred in 1955-58, 1962-63 and 1965-66, they were separated by spells of rapid increase in 1954-55, 1959-61 and 1964. The fluctuations are due partly to the cyclical and irregular nature of house building, and partly to governmental financial measures aimed at regulating the position of construction within the economy, through the manipulation of interest and mortgage rates. The upward trend since 1953 therefore conceals minor fluctuations, roughly at the same times as in the country as a whole. Furthermore the comparative trend lines (see Graph BC 5) indicate that during the decade 1950-60 the area followed the national trend, but with a lag of 1-2 years.

Private enterprise accounted for 21% of total building between 1946 and 1966, but its proportional share rose to 45% in the peak year (1964) Although 62% of private building was completed in the years 1960-66, against 37% for public housing, this still only represented 17,600 dwellings against 30,700 Its significance is far greater than would be suggested by mere scale, as it is subject to market forces and therefore related to the growth elements of the regional economy By contrast, within the public sphere, despite an increased emphasis upon the main population centres, the distribution corresponds more closely with the overall distribution of population Private construction is in no way dependent upon maintaining the status quo

Table (C 1) Private Building by Districts

	<u>Houses Built</u>	<u>Ratio per '000 inhabitants</u>
West Tyne	4,614	68.2
Central Tyne	2,036	14.5
East Tyne	2,156	13.6
South Tyne	8,806	24.0
N E Durham	5,049	55.8
Sunderland	3,967	21.9
Sunderland Dist	9,016	33.1
F Durham	980	7.7
S C Durham	3,018	41.5
C Durham	3,707	62.3
N W Durham	1,952	19.0
S W Durham	1,093	11.0
Total	28,572	25.8

The building figures for geographical sub-regions reveal a wide divergence between the lowest ratio per thousand inhabitants (7.7) and the highest (68.2). The lowest value was 11.3% of the highest, for public building the figure was 48.4%. Individual programmes were much smaller in size, with a range from 980 to 5,050 dwellings, against one of 4,800 to 22,000. Another noticeable feature concerns the fact that the scale of private building was no greater in the conurbation districts than in the mining districts.

The pattern of public building was one in which there were low ratios in the west, intermediate values in the central belt, and highest ratios in the east (see p. 43). For private building four districts have ratios well above the overall figure, while six districts have very low ratios. The former comprise the two central mining districts, plus the conurbation fringe areas of West Tyneside and North-East Durham. Low values occur within the conurbation districts and the coal-mining areas of the west and south-east.

The trend curve for the whole Survey Area (see Graph BC 7) is very similar to that for England and Wales. However, for individual districts a number of differences emerge (see Graphs BC 8). From an examination of (a) the form of the curves, (b) the breaks in slope which indicate changes in trend, it is possible to decipher a number of stages in the housing cycle. Each stage is not found in every trend curve, also different stages of development have been attained in different districts. Nevertheless these stages do tend to repeat themselves, usually in chronological order viz -

- (1) A period of low building levels which extends into the early 1950's

- (2) A point of "take-off" marked by a changeover to rapid rates of increase
- (3) A period of rapid increase in building levels
- (4) A stage of maturity, designated by the slackening of rates of increase
- (5) Post-maturity, with either relative stability following the attainment of peak building level, or else a decline

Private building was resumed in Sunderland immediately after the war, but there was a cut-back which resulted from the imposition of government restrictions. In general, other districts sustained much the same level of building relative to one another throughout the early period. The first districts to respond to the relaxing of licencing controls were Sunderland and West Tyne, in 1952. They were followed the next year by North East Durham and East Tyne. "Take-off" was attained rather later in the other districts and with less spectacular rates of increase in the early years. This applied to South-Central Durham in 1954, Central Durham (1957) and Central Tyne (1959). Of the remaining areas, those in the west despite reaching "take-off" in 1955 (North West) and 1960 (South-West) only experienced moderate rates of increase thereafter, while in East Durham there has been a low level of building and sluggish rate of increase throughout, it has never reached the "take-off" point of the housing cycle.

In the case of Sunderland, following an early "take-off", spectacular rates of increase persisted over the years 1952-57. The peak construction level was attained in 1958, after this there followed a decline as rapid as the build-up phase. Sunderland

exhibits the symmetrical curve of a complete building cycle. Another district with a similarly advanced cycle is East Tyne, which however never attained such a high level of building. Following the peak construction level in 1957 there was a decline, which was reversed in 1961 and a new cycle initiated. For Central Tyne and North West Durham the build-up was gradual and after the peak (in 1963) there followed a slight decline. By contrast, West Tyne, Central, South Central and North Eastern Durham exhibit "J" curves. These districts are in a fairly youthful stage of the building cycle; though they will not necessarily follow the pattern established by Sunderland.

The leaders or initiators of the building cycle were Sunderland and West Tyne ("take-off" in 1952), closely followed by East Tyne and North East Durham (1953). These districts comprise the main conurbation centres and their immediate fringe. Increases in construction gradually spread into other districts. In the two central districts there was a slow start, but then an explosion to building levels equivalent to those in West Tyne and North-East Durham. The remaining areas have stagnated by comparison. East Durham, in particular has never passed the "take-off" point of the building cycle. The section of the coalfield despite possessing large modern collieries lacks most of the forms of employment which provide the impetus for private house building. Local demand has been partially suppressed by the supply of modern, high rent houses in Peterlee New Town, the only attractive sizeable settlement in the area, which therefore caters for many potential home-buyers.

Trends for Individual Local Authorities(1)

When compared with the situation in the public sector, locational factors affecting private building operate in a more complex manner. There is no longer a regular decline from east to west, and so in addition to analysing trends on a district basis, it is worthwhile grouping authorities into certain categories, according to their pattern of development. In order to do this it is necessary to establish distinctive trends and the criteria for classification. The building programme of each authority was examined graphically. Certain authorities have experienced low levels of building in total, either with low levels throughout, or else irregular bursts of building. These areas have been grouped together, and they constitute the static element of the coalfield, with a western group of Stanley, Crook, Brandon, Spennymoor and Shildon, and an eastern group of Hetton, Seaham and Easington.

For a meaningful pattern to emerge an authority needs to have a sizeable building programme, as in the major urban centres, or a high level of building relative to population, as in the zone of suburbanisation. With regard to the stages in the building cycle examined earlier (see P 103) certain patterns repeat themselves. Sunderland C B, South Shields, Boldon and Consett exhibit curves with early "take-off", then a rapid rise to peak construction levels, followed by a decline. The first three areas have experienced a shortage of land for private building, whereas in Consett building is lined with the prosperity of the steel works, after relative

prosperity during the 1950's, the position worsened after 1960. Authorities with straightforward "J" curves experienced late "take-off" followed by continuous rapid rates of increase, and they comprise the second generation of suburban authorities - Lanchester, Durham R D , Chester U D and R D , Washington and Sunderland P D . More complex trend curves are exhibited by a miscellaneous group of authorities with phases of expansion alternating with phases of stability or decline. This feature is apparent in Durham M B , Bishop Auckland, Houghton and Whickham, also to a lesser degree in Blaydon and Ryton. It appears that in certain parts of the suburban zone, a building cycle was initiated to serve a basically local demand, and when this was satisfied there was a decrease in construction, renewed expansion later resulted from the demand stemming from the conurbations. This feature is clearest in the case of Houghton with "take-off" in 1955 and the attainment of an early peak in 1958, followed by a decline, before a renewed burst of activity after 1961.

The Classification of Authorities According to their Trend Curves

The system of classification adopted utilises the trend curves, but the factor of location is also considered, thereby introducing an element of subjectivity.

(1) The Inner Urban Area

This group contains the main urban centres of the conurbations, among which Sunderland and South Shields have been the leaders with regard to trends. The early "take-off" in 1952 represented the resumption of building along similar lines to those of the 1930's

Peak levels were attained in 1957-58, after which land suitable for private housing was in short supply in the residential areas begun by private developers during the inter-war years. The post-war peripheral areas had become dominated by council building in the form of large comprehensively - planned "Neighbourhood Units". These had the effect of largely excluding private development, which was confined to filling in land left within the limits of the built-up area. During the 1960's there has been a substantial decline in the level of private building within the conurbations and it has been forced to move outwards into the mining districts.

(2) The Inner Suburban Area

Only Boldon and Whickham come within this category, both areas contain a number of salubrious residential areas close to the main urban centres. For this reason private building responded to the relaxing of licencing controls almost at the same time as in the conurbation centres themselves. After 1952 the rates of increase in building were virtually the same in both groups. The principal difference between the two lies in the fact that the inner suburban group after reaching maturity in 1957-58 maintained a high level of building, except that in Boldon there was a slight decline resulting from the pressures of the Green Belt on the supply of land, especially for large-scale estate developments.

(3) The Outer Suburban Fringe

This group of authorities is situated further from the conurbation centres and provides less attractive areas for development than(2), but with the increased demand for sites, particularly for

Large scale developments, the area has witnessed large-scale private development for the first time. Take-off has been attained later than in the previous two areas. The progressive outward movement from the centres of population is illustrated by the dates of "take-off" -

1954 Blaydon, Durham R D , Lanchester

1956 Chester U D

1957 Ryton

1958 Washington, Chester U D , Sunderland R D

1961 Houghton

Typically, these authorities exhibit trend lines in the form of "J" curves. However there are a number of exceptions in those cases where separate cycles were initiated, firstly by local demand and later by the suburban movement proper. Houghton le Spring and Ryton illustrate this best, but there is also an element of it in Lanchester.

(4) The Main Towns of the Mining District

The three towns in this category are Durham City, Consett, and Bishop Auckland. They are distinct from the suburban fringe in that their building cycles stem largely from local demand, which resulted in fairly early "take-off" points - e.g. Consett (1952), Bishop Auckland (1953) and Durham (1954). The upward trend has been more gradual than in the suburban areas and has been punctuated by periods of slowdown, phases of expansion alternating with phases of stability. The relatively complex picture may reflect the existence of different cycles. For Consett the peak construction level

was reached in 1961, but in Durham and Bishop Auckland, despite periods of slowdown, the building level received renewed impetus after 1960 with a new phase of peripheral expansion

(5) The Static Mining Districts

All authorities within this category experienced a low level of building. In some cases this took the form of uniformly low rates of building (e.g. Shildon, Brandon, Crook) or sporadic bursts accounted for by the construction of an occasional small estate (as in Seaham, Spennymoor). The two elements - one in the west, the other in the south-east, conform strongly to the coal-mining image, albeit as different components, the declining west with numerous pit closures, and the east which contains younger colliery settlements and large long-life collieries. The influence of growing centres of non-mining employment, and in particular the forces which emanate from the conurbations, are missing. It is these forces which lead to the burst in housing construction, which initiates the suburban building cycle.

Table (C 2) Critical Points in the Trend Curves for Authorities Grouped According to "Type"

	(a) <u>"Take Off"</u>	(b) <u>Maturity(2)</u>
Core Urban Areas	1951	1953
Inner Suburban Fringe	1951	1953
Coalfield Towns	1952	1956
Outer Suburban Fringe	1956	1960

Trend curves for these general categories have many of the irregularities of individual authorities smoothed out. The rapid build-up occurred earliest in the core urban areas and inner suburban fringe, but they were soon followed by the coalfield towns, after this there was a gap of four years before the outer suburban areas followed suit. It has been pointed out (see P 106) that the static mining areas have not attained 'take-off'. However there is a basic similarity in the trends experienced within these mining areas and in the coalfield towns (see Graphs BC 9). What differentiates them is the level of building relative to population. For the core urban areas there has also been a low level of building relative to population, but in these areas it is the scale of building which is important. The conurbations have reached the most advanced stage in the housing cycle, by contrast, the outer suburban fringe in 1966, was still at the early build-up stage.

Despite differences in trends, the various districts are linked together in a regional system. Developments were initiated in the conurbations and their immediate suburban fringe, then spread to the coalfield towns, before moving into a gradually widening suburban zone. Two mining districts, in the south-east and west, have remained outside this system and are dependent upon their own sluggish level of demand.

The Building Cycle and the Colonisation Process

Trend curves vary from the complex curves of Sunderland and Consett to the simple "J" curves of Chester le Street and Washington. Stages in the building cycle can be related to stages in the

"colonisation" process within the mining districts. To meet the requirements of the analysis the number of houses built within an authority has to be of a significant level. This may be attained in two ways - (a) for the large authorities, by virtue of the sheer size of their programmes, (b) for other areas, a ratio of over 26 dwellings per thousand inhabitants(3)

The broad pattern will be established here, but will be examined in detail later. The use of local authority areas imposes certain restrictions as only comparatively small elements are involved. Also, a number of generalisations are made with regard to the nature of demand. It is divided into the local demand derived largely from certain ubiquitous forms of employment, such as teaching and other professions, and from other local sources, like factories. Next, there is the demand derived from those centres of employment with wider significance within the regional pool, for instance the major business and industrial districts in and around the conurbations. The local demand is at a very low level over most of the coalfield, especially as the mobility of professional people enables them to be selective in choosing where to live. This is particularly noticeable in the Consett-Lanchester area, but is important throughout the Survey Area. The second element is heavily concentrated in the conurbations and the towns of Consett and Durham. Many of the authorities within the mining districts depend upon this demand for the attainment of building ratios above 26%

A consideration of authorities according to the dates at which "take-off" and maturity were attained reveals that they generally reached these stages in the same order. Areas of initial

demand were the urban centres of the coalfield and the conurbations plus their immediate suburban fringe. From these places the build-up in construction spread outwards so that suburbanisation next affected Felling, Blaydon and Durham R D (on account of peripheral developments to Durham City)

The next suburban wave was larger and brought in Ryton and Lanchester, along with the whole area between the conurbations and Durham City. Other mining districts outside this zone do not as yet provide convenient locations for commuting, nor do they have an environment which is attractive to house purchasers.

A Comparison of Inter-War and Post-War Private House Building

In contrast to the spectacular increase in public authority building from 50,200 dwellings in the inter-war period to 105,600 dwellings in the post-war period, private enterprise has been responsible for a smaller number of completions in the latter period (28,570 against 38,960) representing a decrease of 26.7%. This decrease hides wide variations, from a decrease of 91% in Easington R D, to an increase of 491% in Chester R D.

The economic conditions of the depression years which fostered the low-cost structure of the construction industry, and the favourable financial considerations, together aided the building boom of the 1930's(4). Also modern forces have come into play since 1946, and have affected the overall distribution of private building. Within the major centres of population there has been a contraction in the scale of operations by speculative builders, while increased mobility has enabled the expansion of the suburban fringe and this

has wrought considerable change in the mining districts surrounding Tyneside and Wearside. On a regional scale this movement is more noticeable in Northumberland with the movement into semi-rural and coastal districts. This may help to explain some of Durham's relative loss. Of the 28 authorities which make up the Survey area only 12 registered increases for 1946-66, when compared with

Table (C 3) A Comparison of the Level of Private Building from 1919 - 39 with 1946 - 66(5)

District	<u>1919 - 39</u>		<u>1946 - 66</u>	
	Number	Location Quotient	Number	Location Quotient
West Tyne	3,121	1.38	4,615	2.57
Central Tyne	5,501	1.07	2,036	0.56
East Tyne	6,158	1.02	2,156	0.52
SOUTH TYNE	14,780	1.10	8,806	0.92
North East	2,085	0.71	5,049	2.19
Sunderland	8,158	1.33	3,967	0.84
SUPERLAIN DIST	10,243	1.13	9,016	1.29
East Durham	6,843	1.82	980	0.30
South Central	2,213	0.85	3,018	1.60
Central	1,495	0.69	3,707	2.41
North West	1,848	0.49	1,952	0.73
South West	1,536	0.37	1,093	0.42
TOTAL	38,958	1.00	28,572	1.00

1919-39 The area which experienced an increased level of building in the post-war period corresponds with the zone of suburbanisation, except for the omission of Chester U D and the addition of Stanley. The greatest increases ($> 50\%$) were experienced in a belt of authorities around Sunderland and East Tyneside, which then spreads into the central group of Rural Districts with western extensions to Whitcham and Lanchester. This belt is continued north-westwards by areas of moderate increase (0-50%) in Stanley, Blaydon and Ryton, and by Felling in Central Tyneside. There were substantial declines in the conurbations and the colliery districts of the west and south-east. The decline amounted to 64% on Tyneside, 51% in Sunderland and 86% in East Durham. Greatest gains occurred in Central (148%) and North Eastern (142%) Durham. The smaller percentage gain in West Tyne is explained by the fact that incipient suburbanisation began in the 1930's, whereas it was a completely new feature to areas like Chester R D and Lanchester. Similarly building for owner occupation had already occurred in the towns of Chester, Consett and Durham, so that, in spite of sizeable post-war developments they recorded decreases. Also, outward suburban movements into neighbouring authorities have taken place even from these second rank urban centres.

In the inter-war years the highest rate of private building relative to population was in the expanding colliery district in the south-east(6). Many houses were built along similar lines to those of the pre-1914 era, in that they were very small dwellings in terraces, in sharp contrast to the ubiquitous inter-war semi-detached houses. They are best seen in the coastal settlements of

Blackhall Colliery, Horden and Easington. The remaining five colliery districts had location quotients below one, with the lowest values in the west. Table (C 3) illustrates that during the inter-war years private building was more in accord with the distribution of population, than has been the case in the post-war period. This can be expressed by an index of concentration, which was 70.8% as against 80.3%.

Local authorities with highest location quotients included conurbation centres (e.g. Sunderland, Hebburn, Gateshead), the early suburban areas of Boldon and Whickham, the coalfield towns of Durham, Chester, Consett, and finally the expanding mining district of Easington (see Appendix Table bc 9). Generally speaking, these areas were fringed by areas with intermediate values, in the north-east, Felling, Sunderland R.D., Washington and Seaham, in the South and South-west by Durham R.D., Spennymoor, Bishop Auckland, and in the north-west by Blaydon. The area of lowest values ($LQ < 0.4$) formed a wide belt in the west spreading eastwards into Chester P.D. and with an outlier at Hetton.

For the years 1919-39 the Area of Concentration contained seven authorities, against ten for the years 1946-66, despite the lower degree of concentration (see p. 212). This was due to the inclusion of large authorities like Sunderland C.B. and Easington in the earlier period. Also, the form of the Area of Concentration was different. Instead of the contiguous zone of suburbanisation of the post-war period, during the inter-war years it comprised a number of separate centres of development, with, in some cases, associated suburban outgrowths. It included Hebburn, Boldon,

Sunderland C B and Easington in the east, Chester and Durham in the centre, and Whickham in the west. Housing developments were related to easily identifiable foci, and the inter-war pattern provides a means of interpreting post-war trends, in that during the initial stages, building for owner occupation was related to certain of these foci. Inter-war private residential areas are also linked with post-war developments by virtue of the fact that many residents of new housing areas have moved from inter-war properties. During the 1930's incipient suburban developments began in West Tyneside, Boldon and Chester le Street (7)

Location of Development - Trends over Time

The pattern of development during the inter-war years offers the logical starting point as it illustrates the situation regarding the first large-scale building operations to cater for owner-occupation. The concentration upon the main urban centres and expanding mining district in the south-east has been outlined (see P 115). Maps of location quotients have used the same scale throughout, in order that direct comparisons can be made, the same is the case with quotient changes between succeeding periods.

In dividing post-war building into three periods it must be remembered that building levels varied widely -

Table (C 4) Proportional Breakdown of Post-war Private Building

<u>1946-52</u>	<u>1953-59</u>	<u>1960-66</u>
6.8%	31.4%	61.8%

Comparisons between periods are used to give an indication of the direction in which particular forces are working. The overall importance of the third period is however, self apparent. The very low level of activity during the early period was largely due to government measures aimed at regulating allocations, so that theoretically there should be a high degree of equalisation, yet, in fact, the inter-quartile range for quotient values is greater than in the following period when restrictions were eased. Basically the pattern in the early years resembles that of the inter-war years, with construction concentrated into the major population centres (Sunderland, South Shields) and their suburban fringe (Baldon, Whickham), plus the towns of the mining districts - Durham, Chester and Consett (see Figure C 3). However, signs of movement into new suburban areas were already apparent, areas which experienced considerable increases included Sunderland R D (+ 90), Washington (+ 92), Houghton (+ 78) and Chester R D (+ 57).^{*} Between the two periods a large section of the north-east experienced an increase in location quotients. It excluded the Tyneside authorities of Gateshead, Felling, and Hebburn. The drastic decline in Easington R D was already apparent.

During the second phase private building began to get underway in earnest. Highest levels of activity were recorded in Baldon (7.87), Whickham (5.0), Durham M B (1.94) and Blaydon (1.75), and the gains were heavily focused upon Baldon (+4.67), Whickham (+3.14) and

* Figures quoted in brackets refer to Location Quotient values

Blaydon (+1 29), areas first to experience the outward movement from the conurbations. This was felt to a lesser degree in Felling and Chester R D, as well as Durham R D (movement from Durham City). Despite relative falls, a high level of activity was maintained in Sunderland, Durham and Consett. It is noticeable that after the tentative emergence of a number of authorities during the years 1946-52, as areas of suburbanisation, they were to slip back in the middle phase, before emerging fully after 1960. This was suggested earlier in the graph analysis (see p 107), it applies to Sunderland R D (-1 14), Washington (- 87), Houghton (- 67 and Ryton (- 62). During this phase of suburban expansion building was heavily concentrated into the more attractive and accessible residential areas.

The first two periods represent something of a transition phase, but the modern pattern of private building has become established since 1960. The years 1960-66 (see Figure C 3) saw the complete shift of development from the conurbation centres into a wide suburban zone extending in the form of a capital T, along the conurbation margins from Boldon to Ryton and with its stem running North-South along the line of the A 1. Within the core of this zone location quotients exceed 1 9, but it is in process of expanding into Lanchester (1 79) and Houghton (1 41). Changes from the preceding period hint of movement into Hetton (+ 35) and Spennymoor (+ 28), though building remains at a very much lower level than in any of the "suburban" authorities. For the period 1960-66 highest quotients occurred in Whickham (3.86) Boldon (3 33), Chester R D (3 57) and with Chester U D, Washington, Sunderland R D and Ryton above 2 0.

At the opposite extreme very low figures (between 12 and 40) persist in parts of the west and south-east Tyneside authorities like Gateshead (39) and South Shields (22) slipped to similar levels, so that lowest building levels had become firmly established within the conurbations and the coalfield extremities. Regarding changes between 1960-66 and 1953-59, large losses recorded in Boldon, Whickham and Sunderland, reflect the fact that these areas dominated private building during the 1950's, but ceased to do so during the 1960's. An indication of the way development can leap-frog back and forth is given by the slight revival during the 1960's in Felling, Gateshead, Hebburn and Jarrow, although their level of activity remained low.

Table (C 5) The Distribution of Location Quotient Values

	1919-39	1946-52	1953-59	1960-66	1946-66
Inter-quartile Range	42	59	36	1 03	75
Total Range	2 49	3 10	7 81	3 76	4 59

Over successive periods the inter-quartile range has tended to increase, except for the somewhat surprising decrease for the period 1953-59. This may be explained by the fact that future suburban areas were beginning to emerge, while some of the main centres of private development were losing ground, and the two types were bunched in the middle range. This period had the greatest range in values, however, due to the spectacular burst of activity in Boldon and Whickham. Between the inter-war and post-war periods the inter-quartile range increased by 78% and the total

range by 84%, pointing to a general divergence in housing trends between different areas. This is corroborated by the increased Index of Concentration (+13%) despite the inclusion of 10 authorities against 7 in the Area of Concentration. The index has increased continuously as building has become concentrated upon the suburban zone.

Table (C 6) Changes in the Index of Concentration

	<u>1919-39</u>	<u>1946-52</u>	<u>1953-59</u>	<u>1960-66</u>	<u>1946-66</u>
Private Building	70.8	68.1	79.6	83.8	80.3
Public Building	70.3	64.1	60.2	66.7	63.1
Difference	0.5	4.0	19.4	17.1	17.2
LA's included in Area of Concentration for private building	7	7	5	8	10

Since 1946 there has been a dispersal of private building from a number of separate foci of demand into a broad suburban zone, yet despite covering a larger area and containing more authorities the post-war Area of Concentration represents a higher degree of concentration relative to population. This is a common feature of post-war suburbanisation, but in the Durham Coalfield it has taken place in an area that while having a lower intensity of development than the conurbations, already possesses a close network of mining settlements. For this reason private enterprise is highly selective in its choice of settlements in which to build. Only in Boldon and Whickham does the number of completions by the private sector exceed that in the public sector, so even in the suburban zone public building still overshadowed private building in 1966.

SECTION(2) The Location Pattern of Private Housing Developments in
Relation to the Growth of Settlement

Private enterprise building accounted for one-fifth of all housing construction during the years 1946-66. Owing to its small scale and its freedom to locate wherever it chooses (planning permission allowing), private housing has exercised a much greater selectivity in terms of its role in the growth of settlement, than is the case with public authority development. So far, private building has been examined at the local authority and district level, and this has permitted a consideration of various zones of development (see P 107). However, within these broad zones, there are wide variations at the local level, which reflect the mixture of growth and decay, and the forces of attraction and repulsion between different elements of the settlement network.

The correlation coefficients for the relationship between private building and the distribution of population by wards and parishes (1951), indicate a lack of correlation between the two. The highest value (0.365) occurs in the western mining area, where the level of building has been very low. A better method of measuring the relationship between the two phenomena is by using the "Area and Index of Concentration" (see P 97). The Survey Area in 1966 comprised a total of 253 wards and parishes, of which 30 were included in the Area of Concentration. The Index of Concentration at 91.8, further indicates the extremely high concentration relative to population. A similarly high degree of concentration is exhibited by council building at the ward level, due to the massive conurbation extensions. The maps of Areas of Concentration for private and council

housing (figure BC 3), illustrates the pattern of mutual avoidance between the two, for private building the emphasis is upon the central belt, which contains roughly half the total, whereas for council building, two-thirds of the total are packed into a great arc in the north-eastern quadrant. The small overlap takes in six wards, all in the central zone, though two of these are also on the periphery of Central Tyneside.

Table (C 7) Coefficients of Correlation by Wards and Parishes

(a) Private Building related to Population

1 <u>Conurbations</u>	2 <u>Suburban Zone</u>	3 <u>W Mining Area</u>	4 <u>E Mining Area</u>
0.031	0.292	0.365	0.325

(b) "Nearest Neighbour" Analysis for Private Building

0.636	0.381	0.511	0.186
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It would appear that private developments have taken place in specific localities, frequently in association with older private housing. This leads to the idea of developments being related to one another, due to their mutual compatibility. Therefore, to investigate the relationship between the level of private building in one ward, and the level in the ward whose "centre of gravity" is nearest to that ward, correlation coefficients were calculated. This "nearest neighbour" analysis revealed a high level of correlation in the conurbations (0.636), where private building tends to be restricted to certain localities. Within the zone of suburbanisation the correlation was much lower (0.381), probably because a new pattern is in the process of establishing itself, as private housing colonises

new locations, it does so in a rather sporadic fashion

Private Building Ratios by Wards and Parishes

It has already been shown that half the total building was concentrated into 30 wards (11.9% of the total). Only 16% of all wards contained more than 200 houses each, and in 53.4% of the wards less than 20 houses were built between 1946 and 1966.

For areas with location quotient values above unity, (see Figure C 7) there is a broad zone which extends northwards from Durham City along the axis of the Great North Road, it also spreads eastwards towards Sunderland through certain wards and parishes in Durham R D, Chester R D, Houghton, Washington and Sunderland R D. In the north-west there is at least some building over a wide area, although high ratios are confined to West Tyneside, and a few localities around Consett. The south-western and south-eastern sections of the coalfield show up for their extremely low levels of building.

Private Building Ratios by Settlements

In moving from an analysis of the settlement pattern in terms of its component wards, to a consideration of complete settlements, the picture becomes more generalised, so that for the major settlements, ratios are mostly of a low order (10-49 per thousand). The principal exceptions are Chester (90 per thousand) and Durham City (74 per thousand). For settlements in the middle and lower size orders, the position is more varied, although the majority contain very little private building, there are some with extremely high

ratios These are, once more, situated chiefly in the central zone, the north-east and West Tyneside Settlements in the medium range (4,000-9,000 population), with high ratios include Whickham (319 per thousand), Whitburn (101), Winlaton (81), Shiney Row (74) and Ryton (67) Rather higher ratios were attained by the smaller villages of Ouston, East Herrington, Carrville and Cleadon, all with ratios above the 400 level, these were followed by East Boldon, Great Lumley, Vigo, Rowlands Gill and Lanchester, with above 120 per thousand A number of small settlements with less than 1,000 people in 1951 also attained high ratios, this was the case with Stella, Castleside, Shincliffe, Dalton le Dale, and the special cases of Hamsterley Hill and Brancepeth(8) Thus by 1966 there was a relatively even spread of private building in the major population centres, but over the remainder of the settlement network, while the majority contained virtually no modern private housing, there were impressive concentrations in the small number that provided a favourable milieu

The Pattern of Private Development

Within the Survey Area, the processes which elsewhere lead to the formation of a rural-urban fringe, are modifying an area which already possesses a close network of urban settlements The selectivity of private development and the unsuitability of most settlements, produces a distinctive form of suburbanisation, though it should be possible to draw comparisons with other areas(9)

The overall pattern of development may be deciphered in two stages, firstly, there are the general trends with regard to the

paths of movement of change and zones of development, secondly, there are the specific nuclei of development within these general zones. The impulse behind private housing construction and much of the demand, stem initially from the conurbations, and to a lesser extent the towns in the colliery districts. It would appear that there are a number of paths along which suburbanisation has moved out from Tyneside. The north-south axial belt points to the importance of the arterial routeway factor, also the valleys of the Tyne and Derwent have resulted in the suburban penetration of an area, which despite coal mining, possesses attractive scenery and settlements with agricultural nuclei that had not been excessively spoiled during the 19th century. Further east physical factors are less important, and the general outward movement in search of sites for private building brought about the early colonisation of villages in Boldon U D. Less attractive areas, like Washington, were developed later, as a result of increased demand and the lack of alternatives. Later suburban developments stemming from Wearside have also been forced into "residual" areas, once the more attractive villages closer in were fully developed. In this case the outward spread of Sunderland's suburban influence after 1960 brought it to the line of colliery settlements from New Washington through Penshaw-Shiney Row to Houghton. These settlements straggle in a direction that is transverse to the radial influences from Sunderland, so that as various communities are drawn into the commuting zone, with the accompanying road improvements, and with the decline of local mining employment, there is likely to be a realignment of the "grain" of the settlement.

Conditioning Factors

Before considering the factors behind the modern suburbanisation of certain mining districts, it is worthwhile noting what Emrys Jones said concerning the geographical study of the city(10) He stressed the importance of the distinctive spatial aspects of inter-related phenomena, and the need to avoid attempting to isolate a single causal factor behind a spatial effect "For the geographer the central part of his study is the association of elements which is expressed spatially"

Within the Survey Area innumerable factors operate in different combinations to produce the overall pattern of development, but here it is proposed merely to discuss them in general terms(11), before considering the various stages in the colonisation of the area by private housing Accessibility is of prime importance in this process, and in a number of areas it is being improved by major road improvements, with their repercussions upon the time-cost factor of distance Also the existence of developable settlements for which planning permission can be obtained is particularly important in the Durham context For certain types of housing, the attractiveness of the settlement, and the presence of socio-economic groups which provide the right "social environment" are important, and place a premium upon housing in the limited number of areas fulfilling these specifications Conversely, the existence of large council estates operates unfavourably, at least in the minds of developers, who occupy such an important link in the chain of decision-makers that extends from the sale of land to the purchase of the houses In addition to the

overriding effect of conurbation influences, there is in some areas the factor of local economic potential, notably in Durham, Birtley, Consett and Bishop Auckland

The Process of Colonisation by Private Housing

In the North-East, in common with other highly urbanised regions, the form taken by the post-war expansion of the conurbations has been different from that prior to 1940. The inter-war expansion of the component settlements which brought about their fusion, was accomplished by a combination of private and council building. However since 1945 the peripheral extension of Tyneside-wearside has been almost entirely in huge council estates pushing outwards on a united front. By contrast, private building has avoided the periphery, due to the lack of provision made for private developers, and also to their conscious avoidance by builders on the pretext that their clients would prefer not to live in the vicinity of large council estates, which depress property values and rates of appreciation(12). Furthermore, car ownership has enabled house purchasers to look further afield. As a result private house building has concentrated upon four main outlets, which may be examined in sequence - (1) In the early 1950's with the easing of building restrictions, activity was resumed in the middle class residential areas within the limits of the conurbations. Much of the best housing had been built in the inter-war years and vacant plots and undeveloped land nearby was now developed. A large number of builders, mostly small in size, were responsible for the numerous small developments which took place in Sunderland and South Shields. The inner residential area to the

south of Sunderland's town centre expanded in piecemeal fashion, altogether some 2,090 houses were built by over 90 different firms. Only six firms built more than 100 houses each. In the case of South Shields in a similar residential area which is a little more diffuse in character, 36 building firms were responsible for 1,060 houses, though there was a fair concentration into the William Leech estate at Horsley Hill (485 houses) which was built in a number of stages.

(2) Contemporaneous with the conurbation developments, were those in the attractive settlements of the inner suburban zone. House building was similarly fragmented, but initially the greater availability of land enabled the construction of sizeable estates for longer. This is a varied selection of house types in these districts, contrasting with the homogeneous estate developments of much of the outer suburban fringe.

(3) Housing construction was resumed gradually in the towns of the colliery districts. Initially it catered for local demand, though in some cases the towns were later drawn into the orbit of the conurbations with a dormitory role.

(4) Private estate developments within the colliery districts of the "outer suburban zone", appeared latest, and did not get underway fully until after 1960. They reflect the demand for low-priced estate houses, and the lack of alternative sites. Large estates have been grafted onto old mining settlements, where these fulfilled a number of conditions relating to their accessibility, physical suitability for expansion, and the absence of excessive ugliness.

Estate building has been stimulated by the lack of land within the conurbations, and the pressures resulting from the Green Belts

Part of the modern growth of the port conurbations is thus occurring in physically separate towns and villages. Increased mobility, changing tastes in housing and the movement towards low density suburban living, have all aided the process. It is highly significant even in an area like the Durham Coalfield, with a stable population and undergoing economic readjustment, it is occurring, therefore, alongside the regrouping of mining population into larger communities to replace some of the straggling settlement inherited from the last century

References to Chapter V

- (1) It was found that the best way of representing trends in annual completions was to use 5-year running means, with the mean for 1962-66 indexed to 100. This method smoothes out excessive irregularities and enables direct comparisons.
- (2) The attainment of a building level 40% of that for 1962-66
- (3) The value for the whole Survey Area
- (4) J H Johnson, Urban Geography, London, 1967, p 126
- (5) Base populations 1921, 1951, to measure relative changes from these dates
- (6) Much of this was for the Colliery Companies of the area for private renting
- (7) G A Nadur, Unpublished Ph D. Thesis, Durham University, 1967, p 114

- (8) Not shown on Figure (C 5)
- (9) See Chapter X
- (10) E Jones, The City in Geography, op cit , p.13
- (11) More detailed consideration in Chapter VII
- (12) Point stressed in interviews at Newcastle building firms

CHAPTER VI

THE BUILDING AND CONSTRUCTION INDUSTRY

Comparisons between the Regional and National Picture

Figures supplied by the Ministry of Public Building and Works cover the period 1957 to 1965. In certain cases figures are available for 1966, but generally speaking the 1966 figures are not comparable with the earlier ones due to changes in the definition of terms and areas of reference. Most of the data concerns the North Eastern Region, but in some cases it extends to the whole Northern Region(1)

The figures are based on the census of the construction industry which the Ministry carries out in April each year. Most of the tables cover the whole construction industry, although in a number of cases trends can be followed independently for the main categories of general builders, building and civil engineering contractors, civil engineering contractors and specialist firms. The breakdown into these categories in the Northern Region is not greatly dissimilar to that in the country as a whole.

Table (D.1) Percentage Distribution of Firms by Trade (1964)

	Northern Region	England and Wales
General Builders	40.0	42.5
Building and Civil Engineering Contractors	3.9	3.5
Civil Engineering Contractor	0.9	1.4
Specialist Firms and unallocated firms	55.3	52.6

For the Northern Region there was a decrease of 11% in the number of firms registered between the years 1958-59 and 1964-65, for the whole country the decrease was 10.7%

The Size Distribution of Firms

Table (D 2) The Size Distribution of Firms

Operative Labour Force	1957 (%)		1961 (%)		1965 (%)	
	National	N E	National	N E	National	N E
Nil-One Man Business	30.9	22.4	27.7	21.8	26.6	21.7
1-10 Employees	52.3	57.3	53.7	55.7	53.7	54.8
11-50	13.5	15.8	14.9	17.3	15.7	17.4
51-99	1.7	2.4	2.0	2.9	2.2	3.4
100-249	1.05	1.6	1.11	1.52	1.20	1.88
250+	0.46	0.47	0.59	0.78	0.64	0.91

In an analysis of the size distribution of firms it is clear that there is a relative lack of one man businesses in the North East, although the gap between the regional and national figures did narrow by some 3.6% between 1957 and 1965. There is a greater emphasis in the North East upon firms in the middle range, employing between 11 and 99 operatives. The change in relative distribution which took place between 1957 and 1965, occurred alongside the overall decrease in the number of firms, a process which has affected the lower groups most. In the North East it affected the firms in the bottom three categories, whereas nationally it only affected the bottom two. There are also a number of other differences, for instance a smaller decrease in the number of one-man firms, but

Table (D 3) % Change in the Numbers of Firms by Size Categories

Operative Labour Force	1965 as % of 1957	
	National	N E
Nil	74.6	81.0
1-10	89.0	79.9
11-50	100.3	91.9
51-99	110.8	118.2
100-249	99.3	93.5
250+	119.3	164.7
TOTAL	86.7	83.6

a greater increase in the number of large firms. The fall in the number of firms employing between 100 and 249 operatives is probably accounted for by the high rate at which firms go out of business at this point, and also by a movement into higher or lower categories. Table (D 3) indicates the dynamic state of the industry in which firms are continually expanding, or contracting, or going out of business. However a more realistic picture is obtained when changes in the employment structure are examined. Differences between the North

Table (D 4) Changes in the Employment Structure (% Distribution in 1957 & 1965)

Size of firm (% of operatives)	1-10	11-50	51-99	100-249	250-499	500+
(1957) National	16.9	26.5	10.7	14.5	9.2	22.2
N E	17.1	27.8	13.8	21.4	9.6	10.2

East and England and Wales are relatively slight, although in the former area there is a heavier concentration in the middle categories

(51-249 employees) and a relative lack in the top category (500+) with regard to the changes between 1957 and 1965 (see Appendix Table d 2) the same categories lost and gained in both cases, although the changes were more extreme in the North East. This would have the effect of bringing the area more into line with the situation in the country as a whole. Nevertheless, in 1965 there was still a relative concentration into the middle range (51-249 operatives) and a lack of giant firms.

For the main sectors of the construction industry the growth in employment between 1958-59 and 1964-65 varied quite widely. The highest figures were for specialist firms (24.4%) and general builders (16.6%), by contrast, building and civil engineering contractors experienced a small increase (4%), and for civil engineering contractors there was no growth at all.

Within the construction industry as a whole the changes in employment level in the different size categories (see Table D 4) reflect an overall trend, but within this trend there were fluctuations from one year to another which stem from vagaries in the market, and also the movement of firms between different categories. In certain years there would be a spectacular increase in one category alongside a sizeable decrease in the category above or below. In the years 1959-60, for instance, the labour force for the category of firms employing 250 to 400 men increased by 96%, while there were sizeable falls for the categories above and below. However this was against the general trend for firms in the top category which experienced an increase of 76% between 1957-58 and 1964-65 (see Appendix Table d 1).

Over the period under consideration there has been a decrease in the total number of firms, due mainly to the decline in the number of small firms, employing between 0 and 50 operatives, but there has been an increase in the level of employment within the industry. In both respects gradual changes have the effect over a period of time of quite radically changing the structure of the industry and shifting the emphasis from the numerous small and medium sized firms to a smaller number of large firms.

Turning to a consideration of the value of output there is a much more even distribution between different size categories than was the case with the distribution of firms (see Table D 2). Here too, however, the emphasis has tended to shift from small to large firms. Table (D 5) shows that between 1957 and 1965 while the share of work done by firms employing 0 to 50 operatives fell from 45% to 32%, that by firms employing over 250 operatives increased substantially from 23% to 38%. In the middle range there was a slight decrease. Other figures (see Appendix Table d 3) reveal a decrease in the importance of housing relative to other forms of construction in the late 1950's and early 1960's, but with a partial revival after 1964. This revival was more apparent in an increased share of the employment than an increased share by value, and so it may point to the fact that the concentration in the upper levels brought out by table (D 5) is due in large measure to the growth in value of civil engineering projects.

In the Ministry of Public Building and Works statistics relating to the distribution of employment, operatives were recorded in the places where the firms are registered. This helps to account

for the heavy concentration of employment within the North East into the Newcastle district, which in 1965 had 13,743 operatives against 4,330 in the South Shields district, 3,940 in Sunderland and 2,960 in Gateshead and district. Totals were much smaller in the mining districts, Durham had 2,100, Bishop Auckland 1,500 and Consett a mere 600 (see Appendix Table d 5). It is not surprising that much of the construction throughout the region is carried out by firms based in Newcastle, also some work is undertaken by firms registered outside the region, whose operatives are not therefore included in the regional total.

The picture that emerges from this analysis of the construction industry in the North East is one in which there is a relative lack of really small enterprises (one-man business), and of the largest firms (those employing over 500 operatives). The emphasis is upon firms in the middle range, in particular those employing between 51 and 249 operatives (see Table D 4). Economic insecurity and the structural changes underway in the regional economy account for the heavier reliance upon the employment of apprentices.

Table (D 5) The Value of Work Done by the Size Group of the Firm(N E)
(% distribution)

<u>Size category</u> (Operatives)	<u>1957</u> %		<u>1961</u> %		<u>1965</u> %	
0-10	17.5	44.6	12.5	35.5	11.7	32.1
11-50	27.1		23.0		20.4	
51-99	12.4	32.7	16.5	32.9	12.1	29.5
100-249	20.3		16.4		7.4	
250-499	9.0	22.6	21.1	31.5	11.9	38.2
500+	13.6		10.4		18.7	

For the Northern Region in 1966 apprentices formed 20.5% of the labour force, whereas nationally the figure was 15.5%. Within the Survey Area the proportion varied quite widely, it was below 12% in the conurbation zones, 15% in the central and eastern mining districts and rose to over 20% in the western mining districts (see Appendix Table d 5)

Council Building Programmes - The Organisation of the Building Industry Involved in this Process

For the purpose of considering the post-war public building programme local authorities have been divided into three groups

(1) Those in which all building was carried out by direct labour departments

(2) Those which utilised both direct labour building and private enterprise contracting (to be termed "mixed" authorities)

(3) Those in which all the building was carried out in contracts let to private enterprise

Table (D 6) The Classification of Authorities

	Number of Authorities	Population	% of Total	Average Population	Median Population
(1) Entirely Direct Labour	14	394,200	35.9	28,157	24,195
(2) "Mixed"	6	428,610	39.0	71,435	44,565
(3) Private Contract	8	275,820	25.1	34,478	21,480

The above table illustrates that the largest group in terms of the number of authorities, is that in which all work has been by

direct labour, but the "mixed" category with less than half the number of authorities had a larger share of the population(1951) This is because the "mixed" category includes a number of the larger authorities, while the former group contains many of the smaller authorities, and has a medium population of 24,000 against 45,000

Within the public housing sector the Durham Coalfield is one of the major strongholds of direct labour building, largely on account of its local political traditions

Only 8 out of the total of 28 local authorities did not have direct labour departments engaged in building by the 1960's Two of the eight had direct labour forces immediately after World War II, Washington (from 1946-53) and Whickham (from 1946-50), but due to their location on the fringe of Tyneside and the difficulties encountered in recruiting suitable labour at a time of relative prosperity and full employment, the direct labour forces were disbanded(2) However, it is interesting to note that Consett situated further from the conurbation influence changed in the reverse direction in 1950-51 The organisation of council building in Sunderland C B has also been subject to variations During the years 1946-49 all building was by private contracts From 1950-52 there was a small direct labour force of 40 to 60 men, but then from 1953 to 1958 all work was by private contract once more During the years 1959-66 a large direct labour force of from 250 to 500 men has worked alongside private contractors Other local authorities have been relatively constant in the organisation of their housing programmes, notwithstanding fluctuations in the numbers built

Figures available concerning the proportion of council houses built by direct labour in England and Wales only cover the years 1960-66(3). Over this period the percentage ranges from 7.6 to 13.9, with a median value of 8.9. This compares with 49% for 1960-66 in the Survey Area and a range of yearly figures from 43.3 to 61.5 percent (see Appendix Table d 6). A consideration of the entire post-war programme of the Durham Coalfield (see Table D 7) shows that the number of houses built by direct labour reached a peak during the middle phase 1953-59, and fell to its lowest point in the post - 1960 period. This disguises the fact that the proportion of council houses built by direct labour was the reverse, with a fall from 45.7% to 42.1% between the 1st two phases, followed by a rise to a peak level of 49% after 1960.

Table (D 7) The Proportion of Council Building Undertaken by Direct Labour Forces

Period	Houses built by Direct Labour	Total houses	% by D L
1946-52	14,915	52,609	45.7
1953-59	17,440	41,394	42.1
1960-66	13,973	28,537	49.0
Total	46,328	102,540	45.2

Hence, despite the fall in completions by direct labour and the decrease in the labour force, its relative importance has increased. It would appear that contract work by private enterprise has been regarded as the more flexible sector, receiving a large share of the extra building in times of expansion, and experiencing

greater cut-backs when there is contraction. The graph of housing completions (Graph D 1) illustrates that the trend for direct labour building mirrors that for total council building, but the amplitude of the building cycles is less than in the case of contract building. Thus, during the build-up phase (1964-51) direct labour contributed between 44 and 52 percent of the total, but in the peak years (1952-57) despite a numerical increase, the proportional contribution fell to a level of 40-42%. During the succeeding trough (1961-64) the proportion increased again to between 48 and 62%, but then fell to 43% in the 1965-66 revival.

The relationship between the level of employment and number of houses built by direct labour is straightforward in outline, but complex in detail. The largest number were employed when the early post-war building drives were getting underway. Decreases resulted from the more efficient organisation of labour and the fall in construction level. In addition, new methods and equipment have been introduced to cut down labour requirements.

In the field of direct labour operations those authorities operating entirely on a direct labour basis dominated the picture in the early post-war years (see Appendix Table d 8), but during the 1950's the share of "mixed" authorities increased, due largely to expansion in Felling and Chester R D. After 1960 a further increase was due almost entirely to the spectacular expansion of direct labour building in Sunderland C B. Thus the proportion of direct labour employment in "mixed" authorities increased from 17.5% in 1946 to 28.6 in 1960 and 45.8% in 1962. A number of authorities with large council building programmes come into the "mixed" category(4). By

contrast a high proportion of the authorities entirely dependent upon direct labour are situated in the mining districts where demand for new council houses has slackened considerably. The geographical pattern is complicated by the intricacies of local politics, but a number of broad generalisations can be made. The area where building has been entirely by direct labour, extends in a broad sweep through the mining districts, from Ryton, Blaydon, Consett in the west, through the Rural Districts of Lanchester, Durham, Easington and Sunderland, and also includes Chester U D, Brandon, Poughton and Hetton (see Fig D 1). Within this zone only Durham City and Peterlee New Town have no direct labour building. There is however, the anomaly of South West Durham where direct labour is absent, except in Shildon. This may reflect the greater physical difficulties and relative lack of resources, although in this respect Shildon is no different from Bishop Auckland. In most of the conurbation authorities and their periphery the housing programme has been carried out either by private enterprise or a combination of private enterprise and direct labour. Only in Jarrow and Hebburn has it been entirely by direct labour. Generally speaking, building has to be organised on a larger scale than in the mining districts, also, there have been difficulties of labour recruitment, particularly in the residential fringe (see P 139).

Trends in the level of employment within individual direct labour forces reflect in large measure the building cycles (see Chapter IV) In some cases there has been the additional factor of the relationship between direct labour and private contract work This has experienced greater variations in the case of Sunderland C B (see P 139).

In the first place the decision on whether to set up a direct labour force was a political one taken at the local level Certain direct labour departments existed in the inter-war years, but in 1946 although the scale of operations was increased not all departments were re-established(5) The strength of local and regional political affiliations is readily seen by the fact that direct labour has retained its strong position in the area, while nationally it has lost ground since 1964(6) Whereas in the early post-war years its great strength lay in the mining districts, the emphasis has moved to the conurbations where direct labour operates alongside private contracting The influence of specialised local circumstances is well illustrated by the case of Jarrow, where a considerable increase in the direct labour force in the early 1960's resulted from the scale of central area re-development, but financial difficulties encountered in the Wear Street scheme (1967) brought this to an end(7)

The relative sizes of direct labour departments are by no means static In 1966 Sunderland C B employed 453 men, more than twice the number in the next largest force (Easington R D 213), then followed another sizeable gap before a group of authorities in the range 75 to 110 was reached The smaller authorities in the mining

districts only employed between 40 and 70 men (see Appendix Table d 8)

The 1966 situation represented a considerable change from the best years of the housing drive 1952-54, when the largest forces were found in the mining districts (e.g. Durham R.D., Seaham and Brandon), plus certain conurbation authorities (e.g. Jarrow, Hebburn and Sunderland R.D.). In the intervening period these areas experienced declines of 50% and more, by contrast Sunderland C.B., South Shields and Farnington R.D. increased their forces. Overall the direct labour employment level fell by 26%.

Council Contract Building Undertaken by Private Enterprise

In the survey area there has been a steady increase in the average size of contracts carried out by private firms. Between the first and second periods there was an increase of 26%, and then a further 42% increase in the third period, illustrating that the trend of increase speeded up after 1960. The scale of operations was larger than is general in the country, as indicated by the fact that the average contract size in England and Wales over the period was a mere 40.3 dwellings. Alongside the increase in the average size of

Table (D 8) The Average Number of Dwellings per Contract

<u>1946-52</u>	<u>1953-59</u>	<u>1960-66</u>	<u>Total Period</u>
53.3	67.0	89.1	66.9

contracts there has been a steady decrease in the number of firms operating. It is important to note that the overall trend masks a number of differences, on the one hand between different authorities,

Table (D 9) Trends in the Number of Firms Undertaking Contract Work in the Survey Area

	1946-52	1953-59	1960-66	Total
No of firms	70	55	48	113
Continuity from 1946-52	70	37	16	
Completely new entries		33	26	

and on the other, between different classes of firms. For instance, in Sunderland C B and Peterlee New Town the largest number of firms were operating in the middle period (1953-59), in Gateshead and Bishop Auckland the peak was not reached until after 1960.

A classification of firms according to their size and the location of the head office illustrates the increase in firms based in Newcastle and within the Survey Area have remained steady. Hence the overall decline was accomplished, firstly by a fall in the numbers of medium and small firms, and then more specifically, by a decline in the number of medium sized firms. In fact, during the third period the number of small firms increased again. At a time when contracts were generally becoming larger there was also increased scope for small infilling and "rounding off" operations. It was the firms in the middle range which suffered most.

The degree of continuity in operations throughout the three periods is greatest in the case of the major firms based within the North East (see Appendix Table d 9). Most of the national-based firms did not make an entry until after 1960, while for the

small and medium local firms there is a continuous state of flux as individual firms prosper or decline, or even "die out"

Table (D 10) Number of Firms Operating According to Size and Location of Head Office

	1946-52	1953-59	1960-66	Total period
I Firms based outside N E	1	3	6	>
II Firms based in Newcastle	5	5	6	9
III Special category(8)	3	3	-	4
IV Major local-based firm(9)	7	10	8	11
V Medium sized local-based firm	28	23	10	35
VI Small local-based firms	26	11	18	47

The overall trend of increase in the size of contracts masks a number of differences. The range in values for individual authorities has widened substantially. Statistically this can be measured by the increase in the standard deviation of the values of the size of contract. The increase is quite dramatic being from 25.7 to 72.2. The change was greatest after 1960. In large part the overall increase in average contract sizes was due to the increases achieved in certain authorities, in particular, Felling, Washington, Gateshead and Peterlee. In other cases decreases were experienced, as in Durham M B, Consett and Spennymoor (see Appendix Table d 10). The increases experienced by Sunderland C B were somewhat below the overall figures. It is noticeable that whereas the highest value increased very substantially, the lowest remained

virtually static This had the effect of widening the gap between authorities like Felling and Peterlee on one hand, and Crook, Spennymoor and Durham City on the other The largest contracts are

Table (D 11) The Range in Contract Size for Individual Authorities

	1946-52	1953-59	1960-66	Total
Range	80 6	102 7	274 2	92 2
Standard deviation	25 7	31 9	72 2	29.1
	1946-52	1953-59	1960-66	Total
Maximum Average Contract Size	99 1	123 5	297 3	
Minimum Average Contract Size	18 5	20 8	23 1	

often accounted for by special circumstances Thus Peterlee is a New Town and Felling a reception centre for Gateshead overflow, so that the scale of building has permitted organisation on a larger scale In Washington there is the very large experimental scheme designed by Professor Napper of Newcastle University. There has also been an expansion in "systems" building and semi-industrialised methods which has aided the increase in contract sizes among the authorities with sizeable programmes

The general increase in contract sizes has occurred against a background of rationalisation within the building industry The increase in scale inevitably favours the large firms For the whole survey area the largest number of firms was operating during the initial post-war phase There was a strong emphasis in favour of local-based firms which accounted for 79% of completions

Table (D 12) Trends in Contract work by type of Firm

	1946 - 52		1953 - 59		1960 - 66		Total	
	Ave	% of Total	Ave	% of Total	Ave	% of Total	Ave Contract Size	% of Total Work
I Based outside N.E.	46.3	2.3	134.6	13.2	187.1	19.2	138.6	11.8
II Newcastle based firms	99.7	11.8	92.9	14.8	175.6	23.3	118.9	16.5
III Early industrial type	70.9	7.5	85.9	6.0	-	-	77.9	4.6
IV Major local firms	82.9	38.1	79.3	41.2	105.4	42.6	87.3	40.7
V Medium local firms	38.9	33.1	40.7	23.3	35.1	11.4	38.9	22.6
VI Small local firms	25.0	7.3	20.1	1.5	21.8	3.4	23.2	3.8
TOTAL	53.3	100	67.0	100	89.1	100	66.9	100

The middle phase (1953-59) saw an increase in the average contract size and a fall in the number of firms operating. Among the small-medium local firms the number fell from 54 to 34 and their share of the work from 40% to 25%. The large firms based within the North East increased their share from 50% to 56%, but there was a larger increase in the share of firms based outside the North East (from 2% to 13%). After 1960 some of the changes begun earlier continued at an accelerated rate. The large increase in average contract sizes was due entirely to increases among major firms based within the North East and among national firms. The latter, and the large firms based in Newcastle, increased their share of the market by a

wide margin, the major locals and small local-based firms increased their share by a small margin, while the medium-sized local firms and those in the "special" category lost heavily

A number of factors were operating behind these changes, among them were the large multi-storey flat projects undertaken by Sunderland and Gateshead, in addition the increasing development of large comprehensively planned housing projects, designed and built as single units. Hitherto, housing estates had generally been built in a large number of sections by a number of building firms. The process of change is relatively gradual, as widely differing forms of organisation exist alongside one another, though there is evidence that changes have speeded up in the third period. It is worth noting that "semi-industrialised" building was undertaken in the early post-war years by the firms in the "Special" category (III). Non-traditional housing of this type accounted for 7.5% and 6% of the market in the first two periods, but after this it was replaced by modern forms of industrialised building. It would appear from an overall view of the situation that there is something of a pyramidal arrangement of firms in which the number in a particular category increases as the average contract size decreases.

Table (D 13)

	Number of firms	Ave Contract Size	% Change in Contract Size
I Firms based outside N E	7	138.6	+ 304%
II Firms based in Newcastle	9	118.9	+ 76
IV Major local-based firms	11	87.3	+ 27
V Medium local-based firms	35	38.9	- 10
VI Small local-based firms	47	23.2	- 13

There is a degree of overlapping between the firms based in Newcastle and those based within the Survey Area where they are of the same order of size. Newcastle is the regional capital, so it is inevitable that there should be a concentration of large firms that exert a strong influence throughout the area. Both categories have experienced the same trends, but they have been greater in degree in the case of firms based in Newcastle. They started with a much smaller share of the market (12% against 38%) but increased it to a greater extent (to 23% against 43%). It is noticeable that although the small and medium-sized firms experienced the same trends with regard to contract sizes, the latter group experienced a more drastic decline in its share of total building. Starting from a relatively strong position (33% in 1946-52) it slumped to a very minor role after 1960 (11%). The share going to small firms was more steady, though there was a decrease from 7.3% to 3.4%. Medium sized firms have been forced to reduce their scale of operations, move into the field of private building for sale, or go out of business. The place of small builders is a little more secure in that they can undertake small infilling/rounding off type operations. A comparison of housing contracts carried out by private firms with those carried out by direct labour departments is hindered by a lack of accurate information concerning the direct labour work. What does exist presents a rather conflicting picture. For instance, for "mixed" authorities direct labour contracts were larger than those undertaken by private firms, in Sunderland C B (76.5 against 65.7) and in Chester R D (52.1 against 40.1), but they were smaller in the case of Stanley (43.7 against 79.1). The figures which exist

for authorities that are entirely direct labour (see Appendix Table d 12) illustrate the generally small size of contracts, and the tendency for them to decrease in size after 1960. This is due largely to their location in mining districts where the straggling settlement pattern offers few areas suitable for large housing projects, and so certain authorities have resorted to piecemeal developments in a number of settlements, instead of concentrating building into large schemes.

The Role of Large Building Firms in Contract Building

The degree of continuity in operations by building firms over the post-war period varies according to a number of factors. Much depends, for instance, upon the pattern of case histories of individual firms. It has already been pointed out that within the construction industry firms are continually expanding or contracting in size, or even going out of business completely. Also some firms changed to building private houses for sale following the growth in demand during the late 1950's, William Leech Ltd, the largest Newcastle firm, is a case in point. Other firms like G M Pearson Ltd, (based in Hetton), concentrated upon contract work with an equal degree of success. Although the local-based firm of L W Evans Ltd held first place in terms of its construction level throughout the post-war period, other large local firms lost ground after the first phase. In fact, the years 1953-59 marked a transition period when certain firms which occupied a major role in the first period had begun a decline which was completed during the third phase (1960-66), at the same time other firms were beginning to concentrate upon private

uilding, and there were also signs of "invasion" of the coalfield by firms based outside the survey area(10) By the third phase, trends begun during the second phase were more advanced There was a marked change with regard to the share of construction undertaken by large firms The number of firms individually responsible for 5% or more of the total construction had increased from 3 to 7, while their contribution almost doubled Similarly, while the number of firms responsible for 500 or more dwellings fell from 14 to 10, on account of the fall in construction level (21,400 to 16,600), their percentage contribution rose from 57 to 72 The increased emphasis upon large scale operations favoured firms

Table (D 14) The Contribution of Large Building Firms

(a) Firms with individual contributions of 5% or more of total

<u>1946-52</u>	<u>1953-59</u>	<u>1960-66</u>	<u>Total</u>
L W Evans(IV)9 3%	Evans(IV)15 3%	Evans(IV) 18 6%	Evans(IV)14.5%
W Leech(II) 7 7%	Leech(II) 8 9%	Pearson(IV)10 6%	Leech(II)5 8%
J Clark(IV) 7 7%	G Wimpey(I)8 9%	Whittall(IV)7 5%	Pearson(IV)5 6%
A V Clercy(IV)6 4%		Laing(I) 6 4%	Wimpey(I)5 6%
Lane Fox(IV) 5 6%		Cussions (II)5 5%	
		S Miller(II)5 5%	
		Crudens(I) 5 0%	
(36 7%)	(33 1%)	(59 1%)	(31 5%)
(b) <u>Firms individually responsible for 500 houses and over,</u> <u>and share of total</u>			
9 firms (52 5%)	14 firms(56 5%)	10 firms(71 8%)	

based in Newcastle (e.g. Cussins and Miller) and national-based firms like Laing and Crudens. Nevertheless L.W. Evans Ltd. consolidated its position and there was expansion of operations by the total firms of G.M. Pearson and Whittall Ltd. (West Boldon).

The Council Building Programme in Sunderland C.B.

The public housing sector of Sunderland C.B. is the most suitable for analysis on account of the fact that its housing programme has been the largest and most varied. Also, reliable figures exist for the annual completions by each builder from 1951, whereas for other authorities the only reliable statistics are those for the starting dates of contracts.

An examination of the annual construction figures for each builder (see Appendix Table d 13) reveals that these several phases of relative stability separated by periods of abrupt change

(1) 1946 - 52 During the early post-war years less than 3% of all building was by direct labour. At this time there were some 15 firms operating on a medium scale (< 100 p.a.) and one firm (L.W. Evans) building on a larger scale. The latter firm accounted for 41% of the total building for 1946-52.

(2) 1953 - 57 In 1953 four of the medium sized firms dropped out of the picture. The dominant position of L.W. Evans was strengthened, and 50% of all building for the period 1953-59 was accomplished by this firm. The remaining 12 builders accounted for a remarkably steady output up to 1957, their median building level was 49 houses per annum, with an upper quartile value of 68 and a lower quartile of 32.

(3) 1958 - 62 At the start of this period seven of the eleven medium sized firms ceased operations. They were replaced by five

new firms, but from this point onwards operations have fluctuated a good deal. For instance, the number of firms operating fell from 11 in 1958 to 3 in 1962 and then increased to 5 in 1966

(4) 1963 - 66 The expansion of direct labour building after 1960 had the effect of squeezing out all the local builders except L W Evans. After 1964 the only other firms operating were large national firms like Laing, Taylor Woodrow and Lindsay Parkinson

This analysis brings out the changes which have taken place, from the early 1950's when building was almost entirely in the hands of 16 local firms, to the 1960's when it was dominated by the direct labour department (47% of total for 1960-66) plus a number of national firms. Of the local firms only L W Evans was still active in 1966, and this was at a reduced level(10). Hardest hit by this change were the 11 local firms which occupied a strong and stable position during the 1950's, together they accounted for 3,900 dwellings in the 7 years 1951-57, but a mere 460 in the 9 years 1958-66

With respect to the housing developments themselves, it is ironical that the apparent uniformity, even monotony of the early post-war estates belies the fact that a large number of builders were involved and undertook a multitude of small contracts, whereas the estates built in the 1960's appear more varied, despite being built in large contracts by the direct labour department and a handful of major building firms(11)

Table (D 15) Sunderland C B - Council Building Programme

	1946-52	1953-59	1960-66	Total
Direct Labour	2 9%	0 2%	46 5%	17 6%
National Firms	Nil	1 5%	17 5%	8 1%
L W Evans	40 6%	20 4%	28 4%	39 9%
Other Local Firms	56 5%	47.9%	7 6%	34 4%
(Total 26)				

The rôle of Private Building Firms in Municipal Contract Work -
A General View

When building was resumed at the end of the Second World War there was a proliferation of building firms, it was relatively easy for a skilled craftsman to set up as a general builder and he stood a fair chance of prospering. Most of the work was initially in the form of municipal contracts, which had the advantage of providing regular monthly payments, and enabled the builder to venture into private building when conditions were favourable. During the second half of the 1950's the fall in the number of firms engaged in contract work was partly offset by the movement into private building at a time of rapid growth in demand. There was some "winning out" of firms during the 1950's, but after 1960 the incidence of bankruptcy and liquidation more than doubled in the North East Region(12). There are a number of factors behind this. Firstly, the general increase in the size of contracts favoured the large firms and meant that the industry was changing from being labour-intensive to being more capital-intensive. The builders

themselves complain of the burden of paperwork(13) and the complications arising from government legislation which mean that greater knowhow is required in organisation and management. A further factor is that in Sunderland, the largest urban centre in the Survey Area, contract building by local builders has virtually dried up, in the face of the expansion by direct labour and national firms. In the field of private building much of the land suitable for development by the smaller firms has been built upon and conditions increasingly favour the development of large estates by a small number of major firms.

The overall impact of these changes has been most drastic in the case of medium sized firms. Some like Whittall Ltd, have successfully expanded, but for many others operations have become intermittent and small scale. The changes have meant a high rate of bankruptcy(14). For the smallest firms there has been greater scope for small-scale infilling works in both public and private sectors, and also for repair and maintenance work.

Building Operations in the Private Sector

Only 28,570 houses were built for sale during the years 1946-66, compared with 56,210 built by private firms on contract to local authorities. Despite this difference in scale, the basic difference in the nature of the work meant that a larger number of builders were engaged in building for sale. Many firms operated on a very small scale, even to the extent of building to the individual specifications of the purchasers. Nevertheless, within this field the leading firm occupies a dominant position, however, after

a small number of major speculative builders there is a rapid fall to the levels achieved by medium-sized firms

Table (D 16) The Share of Building Accomplished by Major Firms (1946-66)

Private Sector(%)		Contract (%)	
W Leech	32 7	L W Evans	14 5
J T Bell	5 0	W Leech	5 8
Lane Fox	3 9	G M Pearson	5 6
G Wimpey	3 5	G Wimpey	5 6

D 16(b) Details Relating to the Thirty Firms Responsible for the Largest Numbers of Completions

- (1) Private Sector Range 9,340 to 140 dwellings, Median 262
- (2) Contract Work Range 7,823 to 489 dwellings, Median 1,173

By considering the 30 firms responsible for the largest numbers of completions in each sector, it is noticeable that while a small number of major firms are important in both sectors, only 11 firms appeared in both lists, thereby giving an indication of the degree of specialisation between different types of work. The situation has been reasonably fluid, for instance, the largest northern firm, W Leech Limited, changed emphasis from contracting to speculative building towards the end of the 1950's

Within the private sector the increased scale of demand, the movement into the suburban zone, and the exhaustion of developable parcels of land within the better residential areas, have favoured

large firms with the necessary resources. By 1966 only one local firm (S McCullough) was competing successfully in the field of large-scale estate development with the Newcastle-based and national firms. A number of medium sized firms building on a similar scale were initially successful, but then encountered financial difficulties, this happened in the case of Coleman and Rought in the Durham area and Watson in Whickham. In addition the level of activity of firms in Sunderland and South Shields declined after the peak levels of the late 1950's and early 1960's.

Of the large share of private building undertaken by Newcastle firms (43%), the dominant element is that by William Leech, though J T Bell and J H Fisher have also made sizeable contributions. It has been relatively easy for Newcastle firms to gain a strong foothold in the areas of suburbanisation for a number of reasons. Generally speaking, these areas support few building firms, especially

Table D 17 The Share of Construction by type of firm

	Private (%)	Contract (%)
(a) Newcastle firms	42.8	16.5
(b) National firms	3.5	11.8
(c) Local firms (14)	53.1	67.1
Category I	9.9	40.7
Category II	13.5	22.6
Category III	29.7	3.8

in the local authorities where council building is organised along direct labour lines. The nature of the settlements themselves makes them most suited to expansion by large speculative estates of houses in the lower price ranges, similarly, the sudden increase in housing construction after 1960 favoured the Newcastle firms with sufficient resources to finance large developments. Local firms have either concentrated upon small estates or joint developments with their builders. The influence of national firms is below what it is in the public sector, and this may reflect the fact that private building in County Durham does not by national standards offer a lucrative outlet. Local firms too were responsible for a smaller proportion of the total (53% against 67%), and there was a reversal in the relative standing of firms in different size categories. In the private sector there has been more scope for the small builder and so this group accounted for the largest individual share.

The Intensity and Area of Operations of Firms According to their Location

Table (D 18) Share of Construction by Location of Firm

Newcastle firms	42.8%
National firms	3.5%
South Tyneside firms	10.9% (Central Tyne 6.8%, E Tyne 4.1%)
Sunderland firms	16.1%
Firms of the mining districts	26.1%

(a) Newcastle Firms In the case of building by W. Leech there is a greater concentration upon the outer suburban zone than is the

case in general with Newcastle firms. Irregularities in distribution are smoothed out by the operations of firms like J T Bell (in Whickham and Ryton), J H Fisher (in Felling and South Shields) and M Grady (Felling, Gateshead). This situation reflects the competition for development which exists in certain areas, plus the fact that demand is more varied in Whickham and Ryton, than it is in Chester R D or Houghton. Newcastle firms have most influence in the central and western districts extending to Lanchester and Durham, it weakens eastwards towards Sunderland and South Shields, though even in Sunderland R D and Boldon it is stronger than the influence of Sunderland firms (see Appendix Table d 14)

(b) Building firms based in Sunderland, Gateshead and South Shields operate at a lower level of importance. Their influence is strong within the immediate locality, but falls off rapidly. In the case of Sunderland it is confined to the coastal zone from South Shields to Easington, but is only strong in Sunderland C B and Seaham. Firms situated in Gateshead suffer from the disadvantage of being overshadowed by the Newcastle firms, though they are quite important in the suburban developments of Chester U D and R D. Firms based on East Tyneside have a purely local significance, and that in an area of declining importance for private development.

(c) Local firms dominate the scene in the static mining areas of the west and south-east, although firms in this category have been responsible for larger numbers of completions in such areas as Durham R D, Whickham and Boldon. There is some indication (see P 174) that in these areas the small firms serve the local demand, whereas the Newcastle firms cater for incomers. When local firms

have tried to expand into the field of large-scale speculative building they have invariably encountered financial difficulties(15)

The Relative Standing of Firms Based in Newcastle and those Based Within the Survey Area

The smaller size of most local-based firms means that they do not have sufficient resources to undertake large-scale speculative ventures. Furthermore, there is a tendency for the largest firms to specialise in contract building with its greater financial security (examples are L W Evans and G M Pearson). In Sunderland C B the medium-sized firms were squeezed out of contract building before 1958 (see P 154). This caused the loss of the steady income derived from contracting, and so it could not be used as a spring-board for the movement into suburban development, since this demand did not arise until later. Another factor working against the local based firms stems from the fact that building cycles in Sunderland, South Shields and Boldon reached an early peak, after which there was a shortage of land suitable for private development.

Much of the demand for private housing in the area stems initially from the Tyneside conurbation, and so Newcastle firms have moved their area of operations outwards to cater for this demand. Areas like the south-eastern section of the coalfield, which are easily dominated from Sunderland, by comparison constitute a sterile area for private housing, in Sunderland R D, Washington and Houghton, where demand is greater, Sunderland firms have to meet fierce competition from national and Newcastle firms.

For all these reasons firms based in Sunderland are generally

smaller, less prosperous and have a much narrower field of influence than those based in Newcastle. They have not attained a "regional", as opposed to a "local" significance in the provision of private housing. This is also true throughout the Survey Area, with the possible exception of the Gateshead firm of S McCullough. Furthermore, the figures for the whole post-war period do not reveal that local firms are continuously losing ground to the large developers.

References to Chapter VI

- (1) The North-East Region comprises Northumberland, Durham and the North Riding of Yorkshire, the Northern Region includes these plus Cumberland and Westmorland
- (2) Information from discussions with the respective Surveyors
- (3) Housing Statistics III, H M S O
- (4) Notably Sunderland C B , South Shields C B , Felling and Chester R D
- (5) Evidence from D A Kirby (1968), Gateshead is a case in point
- (6) "The Times", Friday, April 28, 1967
- (7) "The Journal", Saturday, September 10, 1966
- (8) Firms specialising in early post-war non-traditional housing
- (9) Size according to number of operatives employed -
(IV) 250 + (V) 51-249 (VI) < 50
- (10) Examples - Twinline (Newcastle), Milton Hindle (Preston), Wimpey (London)
- (11) H J Dyos, Victorian Suburb, op cit
- (12) H W Wake, Director National Federation of Building Trades Employers, Sunderland

- (13) Interview with L G Pearson, of G M Pearson Ltd
- (14) Size categories as above(9)
- (15) Examples are Coleman and Rought in the Durham area, Watson
in Whicklam, and Henderson in South Shields

CHAPTER VIITHE RESIDENTIAL MOVEMENT OF POPULATIONThe Migration of Population

In this chapter consideration is given to one aspect of population migration, that is, the movement into owner occupied housing built since 1946. To see this aspect in perspective it is necessary first to give an outline of the overall movement of population.

Some indication of the scale of movement is given by the fact that one third of the population of England and Wales had moved at least once in the five years prior to the census of 1961(1). Within the Northern Region it was found that despite the high degree of inter-regional movement, much larger numbers were involved in local movement, and redistribution within the region(2). 40% of all moves were to houses no more than 15 minutes walking distance from the previous home, and this is largely accounted for by the scale of movement to council properties. Internal redistribution involves the migration of young people to the major urban centres, and of young married couples outwards to the suburbs(3). Owing to economic contraction and the focussing of employment opportunities upon the conurbations and their margins, a degree of population redistribution would seem inevitable. Also, planning policy since the war has fostered some aspects of this redistribution.

In terms of migration patterns (see Fig. BC.8), the areas of net gain, have often experienced a sizeable loss of mining population, which has been counterbalanced by an inflow of commuters

This is best seen in West Tyneside and Lanchester

The council renting and owner-occupied sectors provide the twin tenure goals of migrants, they operate entirely separately, importing more from other groups than they lose, and while there is considerable movement within the two groups, there is very little between them

Case Studies of Private Enterprise Housing Developments

Questionnaire Surveys were used to study the movement of population into modern private housing. In order to focus attention on the processes underlying the changing patterns of development, it was decided to examine certain "zones of interaction" in detail(4). With the information obtained in these areas, it would then be possible to extend general statements concerning forces at work and resulting patterns, to other areas where the issues were more clear-cut. This would be accomplished by supplementing the survey material with data obtained from building firms and other knowledge gained from field-work.

Four areas were selected for investigation, involving six settlements, and with a breakdown into 14 house type groupings. The areas were -

(a) Cleadon An attractive, high status community in the Green Belt between South Shields and Sunderland. A mixture of house types were surveyed with the aid of a stratified random sampling frame(5).

(b) Chester le Street and the neighbouring village of Great Lumley Four sizeable estates were covered, three in the town

and one in the village

(c) Houghton le Spring and Penshaw In this case four estates were sampled. Here the outside impulse stems largely from Sunderland.

(d) Lanchester A pleasant agricultural community in West Durham subject to modern commuter influences.

To indicate the context in which each survey was carried out, it is necessary to consider the factor of location, the sequence of housing development, and the stage reached at the time of the survey. In the case of Cleadon, for instance, there is by Durham standards a concentration upon the more expensive categories of housing, though all types are represented. Only one estate stands out clearly as a separate entity, this is the Leech estate in Boldon Lane containing 290 dwellings. For the most part, Cleadon has expanded in a composite manner with a mixture of houses by type, size and age. Those built as "infills" tend to assume an importance even greater than their numerical strength, since they generally occupy the larger sites, and include the majority of large houses. The pressures for private building in this Green Belt community mean that as vacant plots have mostly been built upon, further intensification takes the form of building in large gardens, in back-land, and re-development at higher densities. These are unusual features in County Durham. Also, over 90% of post-war building in Cleadon has been in the private sector, against a level of 40 to 50 percent in the other settlements surveyed, and 24% in the Survey Area.

The two towns of Chester le Street and Houghton le Spring and their neighbouring villages of Great Lumley and Penshaw, are

Table E 1 The Size Distribution of Private Housing Schemes in Cleadon

Size Category	Number of Houses	% of Total
> 100	289	35.2
25-100	349	42.4
25	184	22.4
	822	100

considered together as they have many features in common. They are situated within a belt which is particularly interesting on account of the varied influences at work, which are bringing about a complete change in the local economy. As coal mining is run down and local sources of employment are lost, there is a concentration of activity upon the major nodes of manufacturing at the Team Valley Estate, at Birtley and at Pallion, and also upon a variety of service employment traditionally under-represented in the mining districts. With regard to settlement changes, there is the concentration of mining population into regrouping centres accomplished within the public building sector, and the large-scale expansion of selected areas by private development. The readjustment of the local economy and the changing functions of settlements are being brought about by the dual process of (a) the movement of population from the conurbations into commuter estates, and (b) the concentration of employment for local population into a small number of nodes in or on the margins of the conurbations. Hence the purpose here is to examine a coal mining

district where the urban structures are undergoing changes stemming from the conurbations, into whose orbit they are being drawn. For this area eight housing estates are considered, and the relevant variables concerning differences between estates include, the builder, type of house, size of estate, date of construction and precise location (see Table E 2)

Lanchester possesses the advantage of having been little affected by mining developments, and of being situated in an area of attractive countryside. The old agricultural nucleus with its stone-built houses has been extended in recent years to the north-west and south-west by a series of private housing schemes, these developments while forming a number of distinctive units do knit together as part of the community, far more than is the case with the private extensions to the mining settlements. The town is 5 miles south-east of Consett and 7 miles north-west of Durham along the A 691, a road which was improved during the 1930's as part of the measures to aid West Durham. It now has the effect of opening up the area to commuter developments for Central Durham. Three housing areas were surveyed in detail and a fourth more briefly.

The former comprise the sizeable estate at Mount Park, the smaller estate at Alderdene Burn, and the composite housing area in the south-west. The latter really initiated post-war private construction in Lanchester, it began with piecemeal house building "to order" and led on to small estate schemes by local firms, which in turn showed the way for larger developments undertaken by large Newcastle - based firms, of which three were operating by the end of 1966.

Table (E 2) The Areas Surveyed with Questionnaire Surveys

Estate	Builder	No. of houses	Date of construction
Chester - 1 Garden Farm	McCullough	364	Started 1962-still under construction
2 Hilda Park	Leech	164	1963-67
3 North Lodge	Leech	149	1958-60
Great Lumley	Wimpey	267	1961-64
Houghton - 1 Gillas Lane	Leech	96	1956-57
2 Durham Road	Leech	116	1965-67
3 Dairy Lane	Wimpey	125(Dec 66)	1965 started 400+(June 68)
Penshaw - Whitefield	Leech	292	1963-65
Cleadon - whole settlement with breakdown by Rateable values and date of move		822	
Lanchester - 1 Piecemeal housing developments in S W	Iveson and others	70	1954 onwards, but mostly 1960-61
2 Mount Park	Leech	160	1962-65
3 Alder-dene Burn	R W Bell	68	1963-65
4. High Ford	Fisher	92	1965 started

Patterns Brought Out by an Analysis of the Questionnaire Surveys

The movement of population into the housing areas surveyed from 4 main source areas was considered -

- (a) The local settlement and local district(6)
- (b) The remainder of the colliery districts
- (c) The conurbations
- (d) Other regions

In all cases the local settlement provides less than 30% of the inhabitants. It is of negligible importance in the case of Great Lumley, Cleadon (R V £90 and less), and the Alderdene Estate Lanchester, while at the opposite end of the scale, with over 25%, are Hilda Park Chester, Cleadon (R V £120+) and the south-western area of Lanchester. The figures indicate that in some cases wide variations exist within individual settlements. This is the case with Lanchester, Cleadon and Houghton. Variables which might help to explain these differences include the size of estate, builder, type of house, date of construction and precise location, factors which will be examined in detail later. However, the clearest indication of the differences is given by Cleadon, where the importance of the local settlement increases dramatically as rateable value increases, and is inversely related to the length of residence. Pressures stemming from the Green Belt and the increased status of the settlement have resulted in increased rates of internal movement relative to movement from outside. In Houghton le Spring the basic difference between Gillas Lane and Durham Road - Dairy Lane must be attributable to the date of construction. The factors

Table (E 3) The Percentage Contribution of the Local Settlement and Local District

	Local Settlement	Local District
Garden Farm	24.4	26.4
Hilda Park	25.6	28.4
North Lodge	19.9	34.4
1 Chester Total	23.1	29.4
2 Great Lumley	1.4	14.1
Gillas Lane	21.2	33.8
Durham Road	12.7	29.8
Dairy Lane	13.7	25.5
3 Houghton Total	14.8	29.4
4 Penshaw	9.0	14.8
Cleaton R V £120+	27.3	46.0
P V £91-119	12.6	19.7
R V £90 and less	1.6	9.5
Cleaton Total	9.3	15.6
Cleaton by date of more -		
1959 and earlier	5.7	12.5
1960 - 63	9.1	12.5
1964 - 67	12.9	21.5
South West Area	28.0	84.6
Alderdene Burn	3.1	34.4
High Ford	7.7	29.8
Mount Park	11.3	56.6
Lanchester Total	10.2	50.1

of house type, estate size, builder and date of construction work in a more complex manner in Lanchester. The earliest building in the south-west was to serve a local demand, but this showed the way for larger estate developers to move in and attract commuters to the settlement. Whereas for the largest estate with cheapest houses, the bias is towards West Durham, for the more expensive areas more "outsiders" have been attracted. In the case of Chester the figures are more consistently high than in other settlements, reflecting the more stable position of the town with a longer residential tradition as a commuter town, going back to the development of the Picktree Estate in the 1930's. It is also the largest settlement under consideration with 15,000 people against 10,600 for Houghton, 3,500 for Penshaw and less than 3,000 for Lanchester, Great Lumley, and Cleadon. Within the zone of the coalfield which contains Chester, Great Lumley, Houghton and Penshaw, it would appear that the towns are able to draw on local population to a greater extent than is the case with the villages. The proportions involved in Chester and Houghton are double those for the nearby villages.

In addition to the stimulus to development provided by local demand, there is also a movement of population from the mining districts in general. This forms a kind of regrouping movement into areas selected for development by the large speculative building firms. Lanchester, for instance, fulfills an important regrouping rôle in West Durham; Chester and Houghton are also important, but in Cleadon there is little inward movement from mining districts. The regrouping aspect is also relatively weak in the estates situated in Great Lumley and Penshaw. Chester and Houghton have

Table (E 4) The Overall Influence of the Colliery Districts
(% of residents)

	Colliery Districts in Total	Drawn from outside Local Settlement
Garden Farm	48 7	24 3
Hilda Park	56 6	31 0
Jerush Lodge	58 2	38 3
1 Chester Total	53 3	30 2
2 Great Lumley	25 4	24 0
Gillas Lane	54 0	32 8
Durham Road	40 4	27 3
Dairy Lane	35 3	21 6
3 Loughton Total	42 4	27 6
4 Penshaw	21 8	12 8
R V £120+	46 0	18 7
P V £91-119	19 7	7 2
R V £90 and less	11 1	9 5
5 Cleadon Total	18 2	8 9
1959 and earlier	15 9	10 2
1960 - 63	14 8	5 7
1964 - 67	23 7	10 8
South-West Area	86 4	58 4
Alderdene Burn	37 5	34 4
High Ford	45 2	37 5
Mount Park	64 2	52 9
6 Lanchester Total	57 9	47 7

attained a better balance between construction for local demand and catering for a movement from other colliery districts, in addition to their strongly developed dormitory functions for the conurbations. In the more recently developed estates in Houghton it is noticeable that the proportion of households drawn from the local settlement has fallen off, although the regrouping function has been maintained better.

Within the outer suburban zone it would appear that the towns fulfill a more important regrouping function than the mining villages. The difference is less marked than in the case of housing people from the local settlement. For Cleadon situated on the conurbation margins the regrouping function is of minor importance.

Movers from the conurbations occupy an important role, except in the case of Lanchester. The conurbations are the dominant source areas in Penshaw, Cleadon and Great Lumley supplying between 54 and 71 per cent of residents. They supply 38.6% of movers to Houghton and 29.3% of movers to Chester. Within the zone subject to suburban influences a wide range of factors operate in determining local variations. The factors include -

- (i) The size of estate
- (ii) Date of construction
- (iii) Building firm and its sales resources
- (iv) Price and type of house
- (v) General location
- (vi) Precise situation and visual environment
- (vii) Miscellaneous factors

These variables combine together in a complex manner and it is not generally practicable to separate them, though in some cases one factor may be of special significance.

Table (E 5) The Proportion of Residents drawn from the Conurbations

	S Tyne	N Tyne	Tyneside	Wearside	Total
Garden Farm	13.4	17.2	30.6	2.8	33.4
Hilda Park	14.9	14.9	29.8	2.8	32.6
North Lodge	13.0	9.2	22.2	1.5	23.7
1 Chester Total	13.4	13.4	26.8	2.5	29.3
2. Great Lumley	21.1	28.2	49.3	5.6	54.9
Gillas Lane	1.4	2.1	3.5	14.2	17.7
Durham Road	2.1	-	2.1	40.4	42.5
Dairy Lane	7.0	2.8	9.8	41.2	51.0
3 Houghton Total			2.7	28.5	38.6
4 Penshaw			5.3	65.4	70.7
R V £120+	18.2	3.0	21.2	15.2	36.4
£91-119	41.1	1.8	42.9	10.7	53.6
£90 and less	50.8	3.2	54.0	19.1	73.1
5. Cleadon Total	43.2	3.0	46.5	15.3	61.8
1959 and earlier	58.0	2.3	60.3	18.2	78.5
1960 - 63	46.6	5.7	52.3	12.5	64.8
1964 - 67	26.9	2.2	29.1	15.1	44.2
South-west	-	-	-	-	-
Alderdene Burn	-	15.6	15.6	-	15.6
High Ford	9.2	10.6	19.8	-	19.8
Mount Park	9.4	3.8	13.2	-	13.2
6 Lanchester Total			13.3		13.3

In Figure (E 1) the information obtained in the questionnaire surveys is combined with the data supplied by William Leech Limited, and information collected during fieldwork. It illustrates the zones of varying intensity of influence of Lyneside and Wearside as source areas of migrants. For Lyneside there is a very gradual decrease in influence moving southwards through Birtley, Chester le Street, Durham and their associated villages in Central Durham. By contrast, the fall-off is much more rapid to the west and to the east. In the west there are few settlements suitable for private development and communications are less conducive to growth, a factor also important in the east, where, however, the major factor is the rival influence of Sunderland. The pattern of Sunderland's area of influence is very different from that of Lyneside, as would be expected when comparing a single urban centre with a linear urban mass. Sunderland exerts a strong influence over a fairly wide area, but this comes to an abrupt end, and there is not the gradual fall-off in influence which is a feature of the Lyneside pattern. Nevertheless, there is some overlapping in the Washington, Boldon and Bournmoor areas.

The strength of the conurbation influence is relatively greater in villages than in towns within particular areas at similar distances from the conurbations. As was shown earlier towns tend to cater more for local demand, along with regrouping from other mining districts, with a resulting decrease in the importance of the conurbations as source areas. Whereas Lyneside contributed 49.3% of households on the Great Lumley estate, the figure for Chester le Street was only 26.8%, despite its being fractionally

existed in the case of Penshaw and Houghton in their relations with Sunderland

In a number of cases, differences within individual settlements can be examined in terms of the different housing areas studied, and, in the case of Cleadon by rateable value and date of move. Firstly, there are six broadly comparable estates situated in Chester le Street and Houghton le Spring in which the varying proportions of households drawn from the conurbations can be examined in terms of a number of variables. The estates form reasonably attractive

Table (E 6) Estates in Chester and Houghton

	Estate	Builder	Size	Year of Construction	% of household from conurbation
Chester	Garden Farm	McCullough	400+	1963 onwards	33.4
	Hilda Park	Leech	190	1963-67	32.6
	North Lodge	Leech	150	1958-60	23.7
Houghton	Dairy Lane	Wimpey	400(8)	1965 onwards	52.0
	Durham Road	Leech	116	1965-67	42.5
	Gillas Lane	Leech	96	1956-57	17.7

residential extensions to two medium sized towns in comparable locations relative to Tyneside and Wearside. Nadur(9) has indicated their similar rôles within the area of North Durham subject to increasing conurbation influence. Allowing for this similarity, and the fact the Leech constructed four of the six estates, differences in household composition (where these are significant) should be explainable in terms of differences of size and the dates of construction. In fact a clear distinction exists in each case, between

the first estate to be developed, and the two that followed later. The division is widest in Houghton, as is the separation in dates of construction, the Gillas Lane and Durham Road estates are of similar size, were built in the same residential area and by the same firm. The only factor to explain the variation in numbers drawn from Sunderland is the nine years difference in age. In Chester, the North Lodge and Hilda Park estates are comparable in the same respects, but are separated by six to seven years, the Tyneside contribution increased from 23.7%, to 32.6%, despite the fact that the earlier scheme is closer and more accessible to Tyneside.

The date of construction is undoubtedly the major single factor in explaining differences, but it is also true that larger estates attract the highest proportion of ex-conurbation households. In Chester the difference is very slight, but the largest estate is on the southern margins of the town, furthest away from Tyneside. The effect of continual re-sales is to gradually reduce the differences.

Cleadon comes under the dual influence of Tyneside and Wearside, with the former the more important, providing 46.5% of households to the latter's 15.3%. The dependence upon Tyneside is greatest for houses in the lowest rating category (£90 and less), it declines progressively as the rateable value increases. The fall is relatively slight from the first to the second category (11.1%), but more considerable to the third (21.7%). Wearside is of secondary importance as a source area, and follows a different pattern in which the lowest category has the highest figure (19.1%), the middle category the lowest (10.7%), and the top category an intermediate figure (15.2%).

Thus, whereas Tyneside has provided the main influx of population into the lower rated groups, the two conurbations are of almost equal importance as source areas for houses rated at £120 and above. An important factor here is that Sunderland has greater sub-regional significance than South Shields. In the case of South Shields there is a definite tendency for young families to move into the cheapest houses initially, and later to move into better houses once they can afford to do this. The scarcity of sites for better housing means that local connections are often helpful in securing them. Some local people have built upon plots which they have held for some time. One impression gained during the survey work was that people who moved from South Shields into the lower rated houses were attracted by the availability of cheaper modern housing (in the late 1950's), rather than a desire to move out of the town, by contrast, people moving into higher rated houses did so consciously because of the attractions of Cleadon as a residential area.

Building activity in Cleadon divides into a number of phases, and so the movement of population was examined over three periods - (a) 1959 and earlier, (b) 1960-63, (c) 1964-67. The percentage contribution of Tyneside fell progressively, from 60.3% to 52.3%, and to 29.1% for the post-1964 period, indicating our acceleration in the trend after 1963. The contribution of Mearsdale has fluctuated, though it remained steadier overall, recovering to 15.1%, after an earlier fall from 18.2% to 12.5%. While the influence of Tyneside has declined, there has been an increased scale of movement within the local area, and also of long-distance movement. People in the latter category appear to be prepared to pay what are by Durham

Tyneside opt to move further afield to cheaper developments.

It would appear that in Cleadon the general trends represent something of a movement towards the "norms" already attained within the top rateable value category. This is probably to be expected in view of the settlement's increased status and the pressures of the Green Belt. With the sizeable estate developments in the years prior to 1960, there was a large influx of people from South Shields. Since that date, as the supply of land has gradually decreased developments have become smaller and of a higher quality. This has had the effect of reducing the scale of movement from Tyneside, and of increasing the scale of local movement. An indication of the movement upwards is given by the fact that in the Cleadon Meadows estate developed by J T Bell in 1966-67, a high proportion of the families came from the local area. Particularly noticeable was the movement which took place from the lower status Leech estate, many of these people had originally moved from South Shields. In sum, a feature of recent small-scale developments has been a significant movement from larger estates developed earlier to receive people from the conurbations. This might be viewed as a "second stage" estate development, in contrast to the "first stage" estate development, which symbolises the initial suburbanisation of an area by the conurbations.

Figures for the proportion of households who moved from outside the Survey Area display a wide range of values, though there is an overall clustering of values between 15-20%. The high figures for Lanchester are associated with the movement of people into the area to work for Consett Iron Company, various recently established

factories in West Durham, and also in the employment centres of Mid-Durham. The incomers are prepared to travel some distance to work for the sake of attractive living conditions. These mobile sections of the population act as "leaders" in the expansion of private housing development to serve commuters. A similar explanation might apply in the case of the Gillas Lane estate, Houghton le Spring. People moving into the area to work in Sunderland would be prepared to live as far out as Houghton le Spring in an attractive estate of an earlier date than the majority of people originating from Sunderland, this movement was to come later. The high figure for the middle rating group in Cleadon has already been discussed (see P 179). It is also noticeable that the proportion of outsiders has increased with time. This is tied in with the prices people are willing and able to pay for housing, the stress laid upon the visual environment, and the idea of what constitutes suitable surroundings in which to live and bring up a family. Lower proportions of "outsiders" are a feature of those estates with relatively few attributes in their context.

Motivations Behind the Movement of Households into Modern Housing

In addition to studying the patterns of movement, it was hoped in the surveys to obtain some insight into why households had moved. The reason for leaving one house is not usually the same as the reason for choosing another house, but in practice it can be difficult to get people to distinguish between the two (10). Furthermore, it is often not easy for people to give a rational and objective statement of the reasons for their choice. Some referred to price

Table (E 7) The Proportion of households Drawn from Outside the Survey Area

Area	Outside Survey Area(%)	Outside N E. Region(%)
Garden Farm	18.4	9.7
Hilda Park	10.8	6.7
North Lodge	18.2	14.4
Chester Total	16.1	10.9
Great Lumley	19.7	18.3
Gillas Lane	28.3	20.8
Durham Road	17.0	12.7
Dairy Lane	13.7	9.8
Houghton Total	19.0	13.2
Penshaw	7.5	7.0
R V £120+	15.2	15.2
R V £91-119	28.5	23.2
R V <£90	15.9	12.7
Cleadon Total	19.7	17.5
1959 and earlier	5.7	5.7
1960-63	20.5	20.5
1964-67	32.3	25.8
South-West	13.6	8.0
Alderdene Burn	46.8	46.8
High Ford	35.0	33.6
Mount Park	22.6	20.8
Lanchester Total	28.6	23.8

factors, though these are operative in all cases. Other merely stated that they "liked the house" or "liked the area". However, the data obtained has value in pointing to the relative stress people laid on particular factors and the variations between housing areas (see Appendix)

Motives were separated into -

- (a) the initial impulse for the move
- (b) the choice of the area into which the move took place
- (c) factors considered in the selection of the house

By this method it is possible to be fairly precise and to categorise the initial impulses as stemming from -

- (i) factors relating to the house itself
- (ii) factors relating to the locality in which it is situated
- (iii) considerations of work,
- (iv) various personal reasons
- (v) miscellaneous reasons

In planning terminology, the first reason is referred to as "home centred", the second as "area centred" and the fourth as "both home and area centred". The third reason is "neither home nor area centred"(11). For all movement within the Northern Region it was found that "home centred" motives were of great importance, particularly over short distances. "Area centred" motives increased with longer distance moves. When comparing the figures obtained from the Durham surveys with Cullingworth's national figures a number of basic differences in the nature of the surveys must be borne in mind. Cullingworth included in his sample all movers to the owner occupied sector, irrespective of the age of the age of

Table (E 8) Reason For Move - Comparison between National Survey and Durham Survey

	National Survey(12)	Durham Survey
1 Factors relating to the house itself	63%	50.3%
wanted to buy	21	8 8
marriage/wanted own home	13	16 6
wanted larger house	14	9 7
wanted smaller house	6	3 4
other reasons connected with house	9	11 8
2 Factors relating to locality (Poor neighbourhood, dirt, smoke etc)	13	7.8
3 Job considerations	11	31 3
4 Other personal reasons	15	7 5

the property, the Durham figures are restricted to post-war private housing. Also as the Powntree Survey covered England and Wales, there are likely to be considerable differences between it and a region like the Durham Coalfield which has been shown to present an atypical picture in terms of the housing situation.

The above factors help to explain the differences in the proportion of households who gave as their main reason for moving the desire to buy a house. In County Durham there is little movement into modern private housing from other tenure groups, in particular there is less movement from privately rented accommodation into owner occupation. However the movement into modern

private houses after marriage was somewhat greater in Durham (representing 16.6% against 13%)

Altogether those people who gave reasons connected with the house itself constituted 63% of the national total and 50% in the Durham Coalfield. This difference is to be expected in that movers to the most modern houses tend to come from sound accommodation and the move often represents a movement upwards which received its impetus from job considerations, or the desire to live in a better neighbourhood. Job considerations, in particular proved to be very important in Durham, accounting for 31% of the reasons given for moving, more than twice the figure of the national survey. The young families strongly represented in modern housing estates are at a mobile stage with regard both to work and residence, they readily move to achieve promotion or improved prospects. In County Durham the job situation is complicated on account of the structural and locational changes underway within the economy. These would therefore be reflected in the housing situation.

One rather surprising feature of the Durham figures is the low proportion of households who referred to the poor environment. There are two possible explanations for this. Firstly, as most moves were from other owner occupied houses, people were not moving from the poorer neighbourhoods. Secondly there is the fact that many people are not especially aware of their visual environment(13)

Despite the lesser importance attached to "home centred" motives in Durham when compared with the national survey, the figure (50.3%) is much higher than that for all categories of movers in the survey of mobility in the North(14)

Table (E,9) Reasons Behind the Choice of the Area into Which Move
Took Place (Durham Survey)

(1) Convenient location in general - stress on accessibility	12 3%
(2) Convenient location relative to workplace	13.1%
(3) Residential qualities - e g rural aspect, low density	42 5%
(4) Local associations and/or desire to be near friends and relatives	11 1%
(5) Availability of suitable housing	13 1%
(6) Housing cost factors	2 4%
(7) Chance and no specific reason	5 2%

The importance of residential qualities, in particular rural aspect, open countryside and fresh air, is immediately apparent. After this group of factors, the next is importance relative to location, for instance, the convenience for work (13 1%) and the closely linked factor of general convenience for shopping, schools, recreation, in addition to work (12 3%). Thus the two together account for 25 4% of all households.

The next group relate to the availability of suitable housing (13 1%) and housing cost factors (2 4%). These factors are operative in all cases so that those people who mentioned them were stressing their extreme importance. The last group of factors of importance concern local associations (7 6%) and the desire to live near friends or relatives (3 5%).

G A Nadur(15) in his survey of post-war private estates in Chester le Street and Penshaw, obtained two different sets of replies which partly reflect the differences between the nature of the settle-

ments They are nevertheless comparable in terms of motivation Answers were classified according to whether the households had moved from the conurbations or other areas Although differences appeared to be quite large, Nadur claimed that this was more apparent than real

Table (E 10) Reasons for Moving to Estates According to Previous Residence (after Nadur)

<u>Chester le Street</u>	<u>Previously lived:-</u>		<u>Total</u>
	<u>Tyneside</u>	<u>Elsewhere</u>	
Attractiveness of estate	29.7%	18.9	22.7
Residential amenities of area	27.4	23.1	24.6
Convenience for travel	29.7	34.3	32.7
Shopping centre	5.5	7.1	6.5
Job in Chester	4.4	9.5	7.7
Association with area	3.3	7.1	5.8

It is necessary to point out that by asking only the one question, the reasons given would inevitably produce an overlap with regard to the later Durham surveys in which the question was separated into 3 parts "Home centred" factors were very important at Penshaw, and to a far greater extent with Sunderland households (63%) than with others (36%) "Area centred" motives were also more important to the Sunderland households (21.3% to 5.4%) with non-Sunderland households there was an emphasis upon moving "near to work" and "near to relatives" These factors represented 43% of replies against a mere 4.6% for Sunderland households However much of the difference

Table (E 11) Penshaw - Reasons for Moving to Estate (after Nadur)

<u>Reason</u>	<u>Previously lived -</u>		<u>Total</u>
	<u>Sunderland</u>	<u>Elsewhere</u>	
House (price, size etc)	62 7%	35 9%	53 4%
Area (healthy, open etc)	21 3%	5 4%	15 8%
Near work	2 9%	30 4%	13 1%
Near Sunderland	7,4%	10.9%	7 9%
Near relatives/home	1 7%	13 0%	5 6%
Miscellaneous reasons	1 7%	3 3%	2 3%
No particular reason	2 3%	1 1%	1.9%

between the two household categories were more apparent than real as many non-Sunderland households worked in Sunderland and so were moving in order to get closer to their work

For Chester le Street the estates form an integral part of the town, in contrast to Penshaw, and movers were less concerned with housing factors and more concerned with "residential amenities" and "shopping centre" Residential qualities were mentioned by 57% of Tyneside households, but only 42% of movers from elsewhere Importance was also attached to convenience for travel and the centrality of Chester le Street was stressed in relation to Newcastle, Sunderland and Durham for employment, and all services Chester le Street was considered to be far enough from the conurbations to offer a choice of residential amenities and yet close enough to be accessible to the benefits which the conurbations offer

Despite the fact that the question relating to reasons for moving was split into two parts in the 1967 Durham Survey -

- (a) the reason for the choice of area
- (b) the attraction of the house

there remained some ambiguity in the answers given

Table (E 12) The Reasons for Choice of House (1967 Survey)

(1) Factors relating to the type, design or size of house	52.9%
(2) Price factors	20.5%
(3) External considerations such as locality or position	11.6%
(4) The "only one" or the best available	14.2%

Differences Between the Various Housing Areas

(a) The Reason for Moving

The desire to purchase a home was most important in Cleadon, with up to 15% of replies, and least important in Great Lumley. The desire to have a home after marriage was mentioned more frequently, accounting for 22-25% of replies in the lower rating categories of Cleadon and 18.2% in Great Lumley, in Lanchester the proportion was much lower (5.5-10%). Cullingworth has shown that the proportion of new household formation which is taking place within the owner-occupied sector increased from 29% in 1957-58, to 41% in 1960-62 (16)

As would be expected, the desire for a larger house was most significant in the top rateable value category in Cleadon, and the desire for a smaller house in Cleadon's lowest category, and other developments containing bungalows, such as south-west Lanchester and Great Lumley. The desire merely for a "new" house was quite

Significant in the Leech estate at Lanchester (19.2%) This reflects the fact that the estate provides relatively cheap housing largely for the local population in an economically depressed part of the coalfield, and one in which the modernisation of the environment has proceeded slowly. People would therefore be very conscious of the fact that they desired a "new" house.

"Home centred" factors in all show a fair degree of regularity with most figures oscillating about the 50% mark. The major exception was the Alderdene estate in Lanchester (23%). At the opposite extreme all the figures in Cleadon were above 50%, with a peak of 66%. The relative importance of "home centred" and "area centred" motives has been connected with the distance of move (17), and certainly the difference between Lanchester and Cleadon would corroborate this.

Job considerations figured highly overall, though there was wide variation between individual housing areas, with a range from 16.9% to 63.3%. The highest figure occurred in the Alderdene estate, Great Lumley, Mount Park (Lanchester) and the middle Cleadon group had figures around 30%, which the other Cleadon and Lanchester figures were lower (17-20%).

With regard to "area centred" motives, considering the nature of the environment in much of the Survey Area, this factor was mentioned remarkably little. The highest figures obtained in the south-west areas of Lanchester (19.2%), Great Lumley (13.7) and the top Cleadon group (13.3%). A group of personal considerations were mentioned which embody elements of "home and area centred" motives. Thus movement on account of retirement, and for the sake

of children were responsible for 19 2% of moves to the south-west area of Lanchester, and 10 7% in the lowest Cleadon group

(b) Reasons for the Choice of Area

Stress was laid upon 5 major categories -

Table (E 13) Percentage Distribution of Reasons

	Great Lumley	Cleadon(18)			Lanchester		
		(1)	(2)	(3)	SW	Alder-dene	Mt Park
1 Residential qualities	42 7	51 4	38 3	33 8	48 0	48 6	44 3
2 Locational aspects	39 0	18 9	15 0	21 6	16 0	29 7	24 6
3 Availability of housing	8 4	10 8	25 0	26.1	20 0	8 1	11 5
4 Local associations	8 5	13 5	15 0	7 7	12 0	8 1	14 8
5 No specific reason	1 2	5 4	6 7	10.8	4 0	5 4	4.9

In terms of the suburban motive, varying stress is laid upon residential qualities and locational aspects. Thus residential qualities were mentioned most in the Lanchester estates and the top Cleadon group (R V £120+). It is noticeable in the case of Cleadon that in the higher rated houses people had moved because it was the "best residential area around", and though this was still mentioned in the other groups it was with less frequency, and a significant proportion had moved to Cleadon because of the availability of modern housing in the ranges not available in Sunderland and South Shields. This movement generally occurred before the pressures from the Green Belt had crystallised in land scarcity and increased

prices The emphasis upon residential qualities in Lanchester is due to its attractiveness in an area of general drab settlements, this point was stressed more by incomers to the region than it was by local movers

For Great Lumley there was a heavy stress upon locational aspects (39% of replies) For those stressing locational aspects, convenience for workplace was mentioned in more than half the cases (13 1% out of 25 4% overall) and it was also implicit in most other cases when people referred to the "convenience of the location in general" It is noteworthy that locational aspects received greatest stress in those developments such as Great Lumley and Alderdene, Lanchester, with the highest proportion of area workers

With the third major group of reasons, those relating to the availability of housing, there are two main aspects Some people indicated that they had moved to "the only" area where they could obtain the type of house they wanted and could afford, with implications as to the residential status of the area This was best demonstrated in Cleadon with figures considerably above the mean (25 to 26% against 13 1%) In other areas there was sometimes a general lack of alternatives For instance there is little development underway in West Durham except at Lanchester, likewise in the late 1950's there was a shortage of new housing in certain categories in Sunderland and South Shields but construction was underway in Boldon U D The mere availability of housing was of least importance for movers to Great Lumley (2 4%), but here cost factors were stressed more (6 0%)

As would be expected local associations were most stressed in the housing areas with high proportions of local movers, as with Mount Park and the smaller developments in Lanchester, and the middle and upper rated groups at Cleadon. This is the major factor which is completely independent of the balancing of centrifugal and centripetal forces stemming from the major urban centres to which the modern housing developments are related.

(c) Reasons for Choosing Present House

The dominant group of factors in the choice of a house, not surprisingly, concern type, design and size of the house, and are stressed most of all with the more expensive housing areas. Thus they account for 78% of replies in Alderdene estate Lanchester, and 71% for the top Cleadon group. In the latter case some 50% mentioned that their house was built to order. This was also important (16%) in the piecemeal developments in south-west Lanchester.

Conversely, cost factors received a relatively greater emphasis with the estates of cheaper houses, as in Great Lumley (36%) and the lowest Cleadon group (29%). The figures for the more expensive developments varied between 8 and 12 per cent.

Returning to the first group of factors a number of reasons received special emphasis in particular housing areas. Thus overall design of house was very important in Alderdene Lanchester (33.3%) and Great Lumley (25.3%) against a general level of below 10%. Basically this implies similar satisfaction to those who mentioned "built to order", except that there was not the personal say in design during the construction. The quality of construction was significant in the Alderdene estate. In this particular case the

building was carried out by a civil engineering firm making a venture into housing which was successful in terms of the standard of housing, but unsuccessful economically. On the same estate in addition to the stress laid upon the design of the houses, and their construction, a high percentage (13.9) of households mentioned that they were attracted by the fact that their houses were detached.

External factors relating to the situation, position or general setting of a house, point to the importance of the visual environment to some people, who place these factors above those relating directly to the house itself. They were especially important in the middle Cleadon group (31%) and Mount Park Lanchester (25.5%). In contrast there was little emphasis upon them in Great Lumley (4%) and Alderdene Lanchester (5.6%).

Characteristics of Previous Residence

(a) Pattern of Tenure From the evidence of the Questionnaire Surveys it would appear that the bulk of movement into modern private houses takes place from other owner occupied properties, despite the fact that this sector comprises only 34.5% of total housing stock. The highest owner occupied contributions were at Lanchester with between 59 and 76 per cent, the top Cleadon group with 76%, and Gillas Lane with 58%. The smallest contributions occurred in the lowest Cleadon group (37%) and Durham Road, Houghton (33%). The private rented sector, by contrast, made its highest contributions to the lower status categories, such as the lowest Cleadon group (29%), Durham Road and Great Lumley (both 25%). The situation was similar in the case of the council rented sector,

though its contribution, even in the highest cases, was well below its share of the total housing stock(19) Households formerly resident in the parental home constituted between 7 and 25 per cent of the total, but exhibited none of the clearly defined differences apparent in other sectors

(b) The Age of Previous House There is an element of uncertainty concerning data relating to the age of the previous home, as it is a point upon which people tend to be vague From the information available it appears that the movement from houses built before 1914 varies between 19-38%, whereas 40% of the total stock comes within this age group, and so it is under-represented as a source of migrants By contrast, inter-war housing contributes between 15-45% with a general level of 30-40%, while forming only 24% of the total stock For post-war housing (35% of total stock) its representation is between 28 and 65 per cent, with a general level of 25-40%, so that it generally strikes parity Housing developments in the lower price categories generally draw upon older housing to a relatively greater extent than do the higher status developments, whereas the converse is true in the case of post-war housing

A Consideration of Certain Family Characteristics of Movers

Attention here is focussed upon the differences between the various housing developments in three types of settlement, namely the inner suburban village of Cleadon, the mining villages of Penshaw and Great Lumley, and the commuter village of Lanchester

The housing areas were developed over a period of time and so the surveys are not dealing with movers at a particular time,

which was the case with the national survey undertaken by the Rowntree Trust(20) with which comparisons are drawn. After the completion of a housing scheme the rate of turnover of population varies according to local circumstances. In Great Lumley, for instance, the turnover is high, due to the estate's location and the socio-economic make-up of its population. Many of the young families regard the estate as a temporary residence before moving to a better house. In other housing areas people may have moved at a later stage in the family cycle, sometimes with a view to retirement. The rate of turnover also varies with house type, as demonstrated in Great Lumley, where only 54.5% of semi-detached houses contained their original occupants, as against 70% for other house types (mainly bungalows).

In terms of the age distribution of housewives, it was found that the peak years of movement in all cases, were between 25 and 44 years. However, in the younger and older age-groups there was a divergence between different housing areas. Cost factors are important, in Cleadon whereas in the top rateable value category 46% of housewives were over 44 years, in the lower categories the proportions were 31 and 33 per cent. High proportions above 60 years in Cleadon, and south-west Lanchester indicate the attractions of these places as retirement areas. At the opposite end of the scale, high proportions of young wives are found at Great Lumley and the Alderdene estate at Lanchester.

The households in each housing area surveyed was classified according to "type", using the system devised by Cullingworth in the Rowntree Trust Survey(21). A feature which is immediately

apparent is the heavy concentration into the "small family" category, in every case the figure is well above that of the Rowntree Trust Survey (36%), though in this respect the Durham estates had had time to "settle down" Large families are under-represented, in spite of Durham's reputation for having larger families than most of England and Wales

Table (E 14) The Distribution of "Household Types"

	Great Lumley	Cleadon			Lanchester		
		RV£120+	£91-119	£90 and less	S W	Alder-dene	Mt Park
1 Individuals under 60	-	-	-	6 5	-	-	-
2 Small adult households	20 3	21 2	21 8	16 1	16 0	9 4	26 4
3 Small families	64 9	42 4	60 0	61 3	48 0	71.9	50 9
4 Large families	9 5	21 2	12 7	6 5	-	12 5	17 0
5 Older small households	5 4	15 2	5.5	9 7	20 0	6.3	5 7

With regard to variations within particular settlements, there are high figures for large families in the top Cleadon group and Mount Park, Lanchester, similarly for older small households in south-western Lanchester and the top Cleadon category Another significant divergence concerns the low proportion of small adult households in the Alderdene estate

Socio-Economic Characteristics of Movers

In the Northern Region Planning Council's survey of migration, the "core element of the migratory elite", were defined as the

professional occupations and intermediate non-manual workers(22)
 This survey covered total movement, and the Rowntree Trust Survey found that for owner occupied housing there was an even greater concentration upon professional-managerial groups

To the figures obtained in the Questionnaire Surveys in 1967 were added figures for the Leech estate at Penshaw obtained in 1965. With the exception of the Penshaw figures and those for Great Lumley, professional and managerial occupations were more strongly represented than in the Rowntree Trust figures, accounting for a general level of 40% of movers against 32%. Together with "small employers" the two groups were responsible for over 50% of economically active movers, while forming a mere 9.6% of the heads of households of the Survey Area.

Table (E 15) The Socio-Economic Make-up of Housing Areas (%)

	Pen- shaw	Great Lumley	Cleaddon			Lanchester		
			RVE120+	£91-119	£90 and less	S W	Alder- lene	Mt Park
Professional- Managerial	14.7	28.6	63.8	42.2	39.9	40.0	43.7	32.1
Small employers	3.7	5.4	15.2	10.9	9.5	-	1	3.8
Clerical workers	24.3	24.4	-	7.8	1.6	12.0	15.6	9.4
Foreman/skill- ed workers	44.9	27.1	3.0	18.8	33.3	20.0	21.9	35.9
Manual workers	8.8	5.4	-	-	-	-	-	-
Others	2.2	-	-	-	-	-	-	-
Retired	1.5	6.8	18.2	9.4	11.1	28.0	6.3	9.4

For the second category of major importance, foreman and skilled workers, there is a wide variation between different housing areas, ranging from 3% for the top Cleadon group to 45% for Penshaw, and with a general level of 25-30% Higher figures are found in the large estates with houses in the lower price range These are related to the major contributions of modern industry, as the proportion of movers employed in coal mining was below 5 5% in all cases except south-west Lanchester where it was 8.0% For clerical workers there is a concentration into much the same areas, and in fact the basic difference between the higher status plus the "composite" housing areas, and the large estate developments of lower priced houses is brought out by the percentage distribution between two broad groups, that of professional and managerial staff plus small employers, and clerical workers plus foremen and skilled workers The relative standing of housing areas between the two

Table (E 16) Broad Socio-Economic Groups (% distribution)

(1) Professional, managerial, small employers		(2) Clerical, foremen, skilled workers	
Cleadon (1)	79 0	Penshaw	69 1
Cleadon (2)	53 1	Gt Lumley	51 5
Cleadon (3)	49 1	Mount Park	45 3
Alderdene, Lanchester	46 8	Alderdene	37 5
South-west Lanchester	40 0	Cleadon (3)	34 9
Mount Park, Lanchester	35 9	South-west Lanchester	32 0
Great Lumley	34 0	Cleadon (2)	26.6
Penshaw	18 4	Cleadon (1)	3.0

groups is reversed. It is probably a coincidence that the 40% level marks a significant division in both cases, as it is more realistic to regard the figures as representing a gradual transition from the two extremes seen in Cleadon and Penshaw. Thus alongside the high degree of social segregation between modern private housing and other housing types, there are strongly developed differences between individual private housing areas.

Within the general socio-economic groups certain occupations assume significance within particular areas. The clearest example of this is the high concentration of teachers in the Lanchester estates. Other professions, including accountants, doctors and insurance brokers are important in the top Cleadon group, along with managerial staff and directors of industrial concerns. Similar concentrations exist for area workers at Great Lumley (17.6%) and the Alderdene estate Lanchester (15.6%), and for industrial workers at Penshaw and Mount Park Lanchester. The latter estate houses employees of Consett Iron Company and of various factories established in West Durham over the last two decades. It is interesting to compare this with the relative concentrations of teachers, area workers and retired people in the other Lanchester estates.

In view of what has been observed concerning the relative status of various housing developments variations in income distribution are predictable (see Appendix Table e 8).

Journey to Work Patterns

For the housing areas surveyed, the major employment centres are Tyneside, Sunderland and a central belt which contains Durham

City, Chester le Street and Birtley, Consett is of significance for Lanchester, but the remaining centres are of very limited importance even at the local level. There are a number of employment categories which provide exceptions to the general scheme of things, the most important are "area" workers and teachers.

It is not possible, nor is it intended here, to give a complete outline of journey to work patterns. It is merely intended to indicate some of the internal differences which exist within the zone of suburbanization. An analysis of the time taken for the journey to work reveals a remarkable similarity in all cases. The figures in Table (E 17) concern estimates given by the people themselves and so relate to their conception of the time taken on average. The median value is the same in every case (15 minutes), while average values too are remarkably consistent at around 20 minutes.

Table (E 17) Time Taken in Journey to Work (Heads of Households)

	(Minutes)	Median Value	Mean Value
Great Lumley		15	20.5
Cleadon (1)		15	15.8
Cleadon (2)		15	20.4
Cleadon (3)		15	20.2
Lanchester S W		15	16.5
Alderdene		15	18.0
Mount Park		15	20.5

The Influence of the Major Employment Centres

The influence of the conurbations as employment centres is even greater than their influence as source areas of population, because in addition to the high proportion of movers from the conurbations continuing to work there, a significant proportion of movers from other areas also work there

In the case of Tyneside the southern and northern banks fulfil different rôles. At Cleadon the area nearest to the conurbation, South Tyneside was by far the more important workplace accounting for 39% of heads of households, compared with 12% for North Tyneside. Moving further out in the central belt Chester and Great Lumley presented a very different picture. For the North Lodge estate, South Tyneside was still the more important, with 20.3% against 15%, but the picture was reversed in the other Chester estates where North Tyneside accounted for 27% of heads of households, and South Tyne for 17%. The same was true for Great Lumley with 17% against 13%. In areas where Tyneside's influence was weaker the north bank remained the more important of the two. The more gradual decline in the influence of North Tyneside as an employment centre, is largely due to Newcastle's function as the regional capital, which gives it a dominant position in the field of office employment and servicing of all kinds, and thus a heavy concentration of those occupations which are so important among that section of the population responsible for the purchase of modern houses. Within South Tyneside there is a concentration of industrial employment, the influence of which is more localised. The influence of the

various employment centres is subject to subtle changes in emphasis from one housing area to the next, and this helps to explain the overall complexity. Chester le Street and its environs provides a good area for examination. Whereas, for example, Tyneside provides a larger proportion of Great Lumley's population, it is a more important workplace for the residents of Chester le Street. This indicates an element of genuine decentralisation to Great Lumley, with Tyneside households working in the Birtley area and as area representatives. It is quite probably that this is more strongly developed in the case of the "satellite" estate developments around Birtley at Vigo and Ouston. The pattern is different again for the North Lodge estate, where the overall importance of Tyneside is less than in the other Chester estates, and the south bank is more important than the north bank, but it is difficult to say whether the differences are attributable to the location or the earlier construction of the estate.

An indication of the extent to which all the housing areas studied act as dormitories for other centres is given by the fact that in eleven of the thirteen cases, the local authority in which the housing area was situated, accounted for less than 14% of the total heads of households. The highest figures were 21.8% for North Lodge and 18.5% for Gillas Lane Houghton.

For each housing area a comparison has been made between the proportion of the population which works in a particular centre and proportion of the population which was actually drawn from the centre (see Table E 18). Where the figure obtained was above unity the housing area in question acts as a reception area for

population working in the centre to a greater extent than that indicated by the scale of population movement from the centre

Housing areas fulfilling this role for Tyneside include all the Chester le Street estates, the Cleadon developments, and at a much lower level the Penshaw estate and Durham Road Houghton. The Houghton estates and Cleadon fulfil the same rôle for Sunderland, while in Penshaw the position is one of parity between the movement to Sunderland to work and the movement from Sunderland to live in Penshaw. The element of decentralisation to Great Lumley has already been indicated (p. 203), a sizeable proportion of Tyneside heads work either in Birtley, or as area representatives

Another function of housing areas is the reception of people working within the mining districts. They either receive population from the conurbations for this purpose, or receive movers from outside the Survey Area. The areas in question are Great Lumley, Lanchester and Gillas Lane, the North Lodge estate is in an intermediate category, while the remaining developments at Chester, Cleadon, Penshaw and Houghton receive people from the mining districts who travel to work in the conurbations

Table (E 18) The Relationship Between the Reception of Population from a Centre and its Attraction as a Work-place(23)

	Local Area	N.Tyne	S Tyne	Sunderland	C Durham	Mining Districts
Chester (24)	0 54	1 65	1 25	-	0 80	0 69
North Lodge	1 10	1 63	1 56	-	1 18	0 78
Gt. Lumley	0 69	0 59	0 59	-	1 38	1 48
Penshaw	0 50	-	-	0 98	-	0 64
Gillas Lane	0 87	-	-	1 37	1 42	1 05
Durham Rd	0 43	-	-	1 02	0 67	0 66
Cleadon	0 43	3 97	0 89	1 11	-	0 47
Lanchester	0 81	-	-	-	2 77	1 07

Table (E 19) Relationship Between Tyneside's Influence as Workplace and Source of Residents

	<u>% of heads of households working on Tyneside according to origins</u>		
	<u>(a) Tyneside</u>	<u>(2) Non-Tyneside</u>	<u>Total</u>
	Cleadon-North Bank	14 9	8 2
South Bank	46 3	31.8	39.2
Total	61 2	40 0	50 4
North Lodge, Chester-North Bank	9 4	17 0	15 0
South Bank	28 1	18 0	20.3
Total	37 5	35.0	35 3
Hilda Park, Chester-North Bank	45 5	18.0	26.4
South Bank	22.5	18 0	19 4
Total	68 0	36 0	45.8
Garden Farm, Chester - North Bank	44 8	20 2	27 6
South Bank	30 3	10 2	16 3
Total	75 1	30 4	43 9
Gt Lumley - North Bank	19 4	13 5	16 4
South Bank	19 6	5 4	13 2
Total	39 0	18.9	29.6

The Effect of Previous Home upon the Journey to Work Pattern

The place of previous residence has been shown to be important in conditioning the spatial relationships of dwellers in private estates attached to former mining settlements(25) Thus in Chester 47% of the residents of the Hilda Park and Garden Farm estates worked on Tyneside, but for households who had moved from Tyneside the figure was 78%, compared with 32% for "local" households. Similar figures occur in the case of "Sunderland" and "local" households at Penshaw, while that for incomers from other areas is at an intermediate level

The figures in Table (E 19) illustrate that a greater proportion of ex-Tyneside heads of households work there, than is the case with other households. The only exception is the North Lodge estate. It appears that this anomaly can be explained by the difference in emphasis between North and South Tyneside. For North Lodge the position with respect to South Tyneside is much the same as in the other Chester estates, similarly the proportion of "non-Tyneside" heads of households working on the north bank is much the same, but the proportion of "Tyneside" heads working there was a mere 9.4% against 45% in the other estates. North Lodge was developed 8 years earlier than the other estates, and it appears that at that time Chester was largely acting as a dormitory area for workers on South Tyneside and in Birtley, although North Tyneside was already an important work centre for "non-Tyneside" households. With the further development of the residential function the north bank gradually assumed greater importance than the southern bank, due to the concentration of office employment

For the nearby Great Lumley estate, despite the difference in significance of Tyneside between the two groups, its overall importance is fairly low. In this case, as in North Lodge there has been a decentralisation of workplaces. These two and, probably Vigo and Ouston to a much greater extent, act as satellite estates receiving population from Tyneside, but less dependent upon Tyneside for employment, than are the dormitory estates at Hilda Park and Garden Farm.

Decentralisation to North Lodge is borne out by the fact that 31% of ex-Tyneside heads of households worked in the local district, compared with less than 10% in the case of the other Chester estates. In Lanchester 52% of population from within West Durham continued to work there, but the figure for incomers was only 19%.

Three quite important groups which are not subject to the same locational restraints as the majority of movers are area representatives, naval personnel and retired people. Taken together there are concentrations in Lanchester (28% of total), Great Lumley (27%) and Cleadon (24%), much lower figures (<10%) obtained in Penshaw and Hilda Park Chester. For the economically active groups there are in Great Lumley and North Lodge noticeably higher proportions among Tyneside households than among other households. At Lanchester the concentration of area representatives and naval personnel is in the group of movers from outside West Durham (see Appendix Table e 9).

In all cases but one the settlements studied are situated in that part of the coalfield which has come within the orbit of the port conurbations. The proportion of movers from the conurbations varies, but subtler differences in the pattern of development are

brought out by a comparison of the relative importance of various centres of employment to households according to their place of origin. It is possible in this way to distinguish between the straightforward dormitory housing areas and the satellite developments. At Lanchester in West Durham similar forces are at work on a smaller scale, and the spatial relationships of local movers are very different from those of movers from outside. Overall it can be seen that different housing areas fulfil different functions within the general process of suburbanization.

A Case Study of Private Enterprise Housing Development

Within the Survey Area by far the largest operator is the Newcastle firm of William Leech, responsible for one third of the houses built for sale between 1946 and 1966. Numerically this represents over 9,000 dwellings. By 1965-66 the firm had achieved a building rate well above 1,000 dwellings per annum, split between Durham and Northumberland in the ratio 2:1. The other major Newcastle firm (J T Bell), concentrates activities more in Northumberland, which partly reflects an emphasis upon housing in a somewhat more expensive price range.

For the twenty-eight authorities of the Survey Area there were only eight in which Leech had not built any houses by 1966. Of these, all except Ryton were situated in the peripheral mining districts. The major area of activity has been the conurbations and their settlement zones extending into the mining districts, but there have recently been signs of movement further afield into Bishop Auckland and Spennymoor in the south-west. Another new departure

has been the construction of a small estate of "executive homes" at Shincliffe Bank Top outside Durham City (1967-68)

Variations in Intensity of Influence

The considerable variations in the intensity of Leech's influence reflect the operation of a number of factors. These concern the scale of demand for houses in the lower price categories, the existence and availability of suitable land and settlements as locations for the estates, and also the degree of competition from other building firms. It has been easier for Leech to colonise some areas than others, for example, in the more attractive residential areas where demand for private housing arose early on there was considerable activity among a large number of small and medium-sized firms, often on plots too small for Leech to develop with full economies of scale. Leech has been responsible for a number of sizeable estates in such areas, but developments are of a greater size and relative significance in areas, which though suitable for large estate developments of lower priced houses, were not sufficiently attractive to builders catering for a more varied type of demand. In Blaydon, Houghton and Chester R D the mining settlements have been extended with large estates, also it has been easier for Leech to dominate private construction in the areas where council building has largely been undertaken by direct labour departments, since these have had the effect of stifling the activity of smaller builders during the 1950's, when contract work for local authorities supplied a spring-board for small firms to move into private construction once restrictions were eased.

House building by Leech is essentially a speculative operation and tends to anticipate demand in certain areas, though the firm does follow the indications of the degree of success of smaller firms in particular areas. In addition, the firm claims to carry out market research, but would not disclose any details. However, their figures relating to the previous residence of movers into new houses provides information on the pattern of population movement. The figures concern ten groups of estates, to which the main source areas of population are broadly Tyneside, Wearside and the mining districts. The areas were grouped in this way because below this level the source areas were defined rather loosely in a way which was not very meaningful in geographical terms.

For all the estates together, some 66% of residents had previously lived in the conurbations, 41% on Tyneside and 25% on Wearside, 28.5% were drawn from the mining districts and 4.4% from the rest of the country.

Table (E 20) The Major Source Areas of Movers to New Houses Built by W Leech Ltd (% Contributions)

<u>Estate Grouping</u>	<u>Tyneside</u>	<u>Wearside</u>	<u>Mining Districts</u>	<u>Rest of Country</u>
East Tyne	88.4	7.3	1.9	1.9
Chester Birtley	50.5	4.6	36.7	6.4
Houghton-Penshaw	7.2	50.8	36.8	3.2
Durham City	14.1	5.8	66.8	12.8
Washington	44.4	41.5	10.0	3.3
West Durham	31.4	3.7	59.3	4.3
West Tyne	71.6	0.4	22.8	4.2
Herrington	8.6	73.8	10.1	5.9
Boldon	26.9	63.1	7.6	2.4
Whicklam-LowFell	86.8	1.2	7.8	2.3
Total	41.0	25.4	28.1	4.4

The conurbations fulfil a major role in providing residents for the Leech estates throughout the coalfield. They are the dominant source areas, accounting for over 60% of incomers, for six of the ten estate groupings, they provide between 50 and 60 percent in a further two groups, and the lowest proportions are 35% for West Durham and 20% for Durham City. For the estates situated within the conurbation settlement zone in the mining area, generally one or other of the conurbations is dominant. Thus Tyneside occupies this position with respect to Whickham, Chester-Birtley, and West Tyne, and Wearside with respect to Herrington, Boldon and Houghton - Penshaw, though there is an overlap in Washington (Tyneside 44.4%, wearside 41.5%) and to a lesser extent in Boldon (Tyneside 27%, Wearside 63%).

Coalmining districts provide only 28% of residents in total despite the fact that seven of the ten estate groups are located in these areas. Although economic opportunities are focussed increasingly on the conurbations and their margins there is very little movement of population from the mining districts to the main urban areas - for instance the proportions are 1.9% for East Tyneside, 7.8% for Whickham - Low Fell and 10% for Herrington. Other low contributions occur in estates outside the conurbation limits, but subject to their strong influence. This is seen at Boldon (7.6%), Washington (10%) and West Tyne (22.8%). Further out at Chester - Birtley and Houghton - Penshaw, the proportion of the residents drawn from the local mining districts constitutes just over one-third of the total. But it is only in the cases of West Durham and Durham City that the mining districts are the dominant

source areas, providing 59.3% and 66.8% respectively. These areas are further from the conurbations and also possess local sources of employment.

The figures in Table (P 20) point to a very small movement from other regions. From the questionnaire surveys it was found that incomers from outside the Survey Area tend to avoid houses in the lowest price categories, also their proportion of total households tends to increase in time due to re-sales. Among the Leech figures the highest proportion obtained in Durham City (12.8%), followed by the Chester group (6.4%) and Herrington (5.9%). These areas are tributary to employment centres having a sizeable interchange with other regions.

Concerning the patterns of migration from the main urban centres of Newcastle, Gateshead, East Tyneside and Sunderland, a number of differences are apparent. Newcastle and Gateshead illustrate the kind of pattern which might logically be expected, with high contributions to those estates nearest the source area, and progressively lower figures moving outwards. The decline is more rapid to the east and south-west, due to the rival centres of Sunderland, South Shields and Consett, while to the south the decline is more gradual along the line of the A 1, and also westwards along the Tyne Valley. Newcastle's influence is strongest in West Tyne (33%), and Gateshead's in Whickham-Low Fell (53%). Their influence in the Chester-Birtley area is virtually the same (21%), but Newcastle has a stronger influence in Washington (21% against 17%). The high degree of similarity in the two patterns stems from the fact that Newcastle, the larger centre, is further

from the housing areas under examination. One of the findings of the North Regional Planning Council's Survey(26) was that population movement from North Tyne to South Tyne exceeded the movement in the opposite direction.

The tributary areas of East Tyneside and Sunderland are more proscribed. The former area contributed 63% of residents to local estates, but only 20% to the neighbouring Boldon group. The only other group of estates in which East Tyne's contribution was above 10% was West Tyneside (10.4%). This is surprising in view of the fact that the movement of population is generally considered in terms of a progressive movement eastwards from West Durham, following the lines of economic development. However, the higher, more attractive and less urbanised area of West Tyneside is becoming increasingly important for private development, as mining declines. The outward movement of population from East Tyneside is on a smaller scale than from Central Tyne and Sunderland. The latter is dominant in the Herrington, Boldon and Houghton-Penshaw areas, providing 74%, 63% and 51% of residents, respectively. Sunderland is also important in Washington (42%), but further out its influence falls dramatically to less than 8% in all other areas. Thus, as with Newcastle and Gateshead, there is a sizeable area over which Sunderland dominates the population movement to Leech estates, but unlike them there is no transition zone before its influence declines to a very low level. This points to Sunderland's important, but more proscribed rôle as a sub-regional capital, below the full regional importance of the twin cities Newcastle and Gateshead.

The mining districts do not constitute compact urban source areas, instead, over a wide area people are drawn into new housing developments located near to the more important employment centres, and in the growing dormitory settlements. This process is similar in its mechanics to the regrouping undertaken by local authorities, but the mining districts are of lesser significance than the conurbations as a source of house purchasers. They accounted for 28% of total residents against 66% for the conurbations. Nevertheless they are the dominant sources in Durham City (67%) and West Durham (59%), but moving towards the conurbations their influence falls progressively, to 37% in the Chester and Houghton areas, 23% in West Tyne, and a mere 10% in Washington. For the estates on the conurbation margins the mining areas contributed less than 10% of residents, so that there is very little migration from the mining districts to the conurbations, despite their increased significance as employment centres.

References to Chapter VII

- (1) North Regional Planning Council, Mobility in the North, Newcastle, 1967
- (2) Ibid - 80% of total movement occurred within the Survey Area.
- (3) J W House and E M Knight, Migrants of North East England, op cit
- (4) See Appendix.
- (5) Three rateable value categories were delimited with the use of a scatter diagram, then a random sample selected from each group.

- (6) Local settlement town or village in which estate is situated
 Local district the district in which the settlement is situated
- (7) Chester $7\frac{1}{2}$ miles, Great Lumley 8 miles to Tyne Bridge
- (8) Dairy Lane only contained 125 houses at time of survey
- (9) G A Nadur, Unpublished Ph D Thesis, op cit
- (10) J B Cullingworth, Trends in English Housing, op cit
- (11) North Regional Planning Council, Mobility in the North op. cit
- (12) J B Cullingworth, Trends in English Housing, op cit , p 62
- (13) The Report of the Lower Swansea Valley Project, 1967
- (14) N R P C , Mobility in the North, op cit
- (15) G A Nadur, Ph D Thesis, op cit
- (16) J B Cullingworth, Trends in English Housing, op. cit , p 59.
- (17) N R P C , Mobility in the North, op cit
- (18) Cleadon, rateable value categories - (1) £120+ (2) £91-119
 (3) < £91
- (19) Houghton (20%), Great Lumley (16%), but public sector comprises
 51% and 42% of total stock in the respective local authority
 areas
- (20) J B Cullingworth, Trends in English Housing, op cit
- (21) Ibid, p 112
- (22) Ibid, p 121
- (23) Ratio above 1 indicates greater strength as workplace than as
 source of residents, and vice versa for ratios below 1
- (24) Garden Farm plus Hilda Park
- (25) G A Nadur, Ph D Thesis, op cit
- (26) N R P C , Mobility in the North, op cit

CHAPTER VIIIHOUSE PRICESVariations in the Cost Factor for Private Housing Development

Variations in the cost factor from one location to another are largely attributable to differences in the price of land. It is more straightforward to measure these differences through prices paid for land than through an analysis of house prices, as only one price can be paid for a parcel of land at a particular time, while there is infinite variety in the prices which can be paid for houses built upon it. In the latter instance there is involvement with the complexities of the housing market. Despite the importance of land prices no official statistics are published. The major source of information is the auction quotations in the "States Gazette", and this has been used in the few notable studies of land price returns(1) undertaken in Britain. The figures quoted principally cover the South and Midlands, for County Durham there is no adequate source of information as most land sales remain confidential, due to the unwillingness of builders to divulge the information. Hence attention must be confined to the working of the housing market through the mechanism of house sales. Firstly, it is necessary to indicate the shortcomings inherent in any analysis of house prices. The various difficulties mean that there is no single method capable of presenting a complete picture. The difficulties stem from the heterogeneity of the property market, plus the fact that every house is unique in its spatial relationships with every other property and this

contributes to its individual value

Here, for the sake of simplicity, it will be assumed that house prices represent an expression of the combination of land values and the cost of dwellings which the location can profitably support. These should be reflected by the make-up of the housing market in individual settlements and in the various districts into which the Survey Area can be divided.

The most comprehensive source of information on a national basis is that published in the Occasional Bulletins of the Co-operative Permanent Building Society. For the Survey Area additional information was obtained from the files of local offices of Building Societies and Estate Agents, from a survey of the "asking prices" (2) for post-war houses advertised for sale during 1966, and the prices of new houses from the building firms. Using this data a combination of approaches was used, though basically there are two lines of approach -

(1) A consideration of the average prices for particular categories of housing in each residential area, and the overall price distribution within the ten housing market areas into which the Survey Area was divided.

(2) An examination of the variations in the prices for particular house designs by the larger builders, which have been built simultaneously in different locations. The aim here was to introduce a degree of direct comparability.

A National and Regional Consideration of House Prices

The main problem inherent in using the statistics of the Co-operative Permanent Building Society, is that of not knowing

how representative they are. For instance, there may be a slight bias towards the lower income groups, and this bias may not be even between different regions. Nevertheless, it must be presumed, as it is one of the larger Building Societies, and in the absence of other information, that the figures at least give an indication of the scale of changes over time and the variations between regions. Unfortunately the regions used in the "Occasional Bulletins" differ from the standard regions. The North-East is more of a province than a region, containing as it does, the three Yorkshire Ridings and Lindsey, in addition to Northumberland and Durham.

The salient features brought out by the statistics in the "Occasional Bulletins" will be summarised briefly.

Table (F 1) The Average Prices of New Dwellings (1958 indexed to 100)

<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>
95	97	100	101	106	116	124	132	142	156	169

The annual price indices for new dwellings mortgaged by private owners over the country indicate the accelerated rate of increase from 1960 onwards. Average prices for new properties in each region were first quoted in 1959. At that date the figure for the North-East at £2,096 was the lowest of all, against £3,025 for London and the South-East. The North East's figure remained the lowest until 1963 when figures were first quoted for Northern Ireland. The average for the North West also fell below that of the North-East. Nevertheless, over the period 1959-66 the scale of increase in the North East was on a par with the North West,

only in the Western region was the percentage increase lower, and this was in spite of the fact that the starting level in the North East was lower than elsewhere. Hence the gap with regard to the overall figure widened somewhat.

The figures in Table (F 2) indicate that the value of land formed a smaller proportion of the total price of new housing than in other regions, with the exception of Scotland. This would suggest that the proportion of the housing cost stemming from the construction costs differs less from that in other regions than is suggested in Table (F 2).

Table (1 2) Average Prices of New Houses by Regions

	<u>Final Quarter 1959</u>	<u>1966</u>	<u>% change 1959-66</u>	(Dec 1966) <u>Ratio Site</u> <u>Val to price</u>
	(£)	(£)	(+)	
London and S E	3,025	5,223	72.7	25.6
Southern	2,699	4,773	76.8	26.0
Western	2,471	3,905	58.1	18.0
Midland	2,264	3,750	65.6	20.5
Eastern	2,436	4,017	64.9	13.5
North Western	2,224	3,628	63.1	16.7
North Eastern	2,096	3,423	63.3	15.8
Scotland	2,607	4,459	71.1	12.8
N Ireland	-	3,370	-	n a
G B	-	4,067	-	

The 10,789 loans approved between February and July 1966 were analysed in order to ascertain the average prices of different categories of new dwellings(3). Prices were generally lower in the

North East than in the whole U k , except in the case of detached bungalows For other categories the difference was of the order 12-16%, though for terraced houses it rose to 45%

Table (F 3) Average Prices of Various House Types

	<u>North East</u>	<u>U K</u>	<u>% difference</u> <u>U K to N E</u>
Detached Houses - 3B R	4,149	4,699	+13 2
Detached Houses - 4B R	6,047	6,747	+11 6
Semi-detached houses - 3B R	3,054	3,528	+15 5
Detached bungalows - 2B R	3,561	3,660	+2 8
Detached bungalows - 3B R	4,447	4,183	-6 3
Semi-detached bungalows - 2B R	2,606	3,030	+16 2
Semi-detached bungalows - 3B R	2,960	3,303	+11 6
Terraced houses - 3B R	2,608	3,785	+45 2

The Price Distribution of Houses Sold in the Survey Area

To give a picture of the price distribution of new houses sold in the area during 1966 figures were obtained from the local offices of Building Societies(4) The data covers the whole Survey Area, but there is the problem once more of not knowing how representative it is, also there is a lack of direct comparability between one set and another Nevertheless, the figures (see Table F 4) serve to indicate the heavy concentration into three price categories, £2,500-2,999, £3,000-3,499, £3,500-3,999 Altogether, some 80% of new dwellings came into these groups, whereas in the national figures(5) for 1966, the proportion was 59% The highest

proportions in the categories above £4,000 obtained in the statistics from offices in Sunderland and Durham City

A more complete picture of the price distribution of post-war houses entering the market was obtained in a survey of prices for re-sales of houses advertised during 1966. This information was obtained from the property columns in local newspapers(6), addresses were checked so that a particular house was not included more than once and when a house was re-entered at a different "asking price", the last recorded price was used.

The picture which resulted from this procedure is inevitably biased in a number of respects. Certain classes of housing are up for sale more frequently than other classes. At Great Lumley (see p.196) it was shown that there was a larger turnover of semi-detached houses than there was for other classes. Similarly, there is little movement within certain price categories. For the much sought after categories in high prestige residential areas there were relatively few price quotations. However, in spite of the fact that this method does not present a complete picture in all areas, it enables a comparison to be made of the housing markets of each area. The only major omission is in the case of South Shields, an area with an acute shortage of modern private houses, where the local habit is to advertise houses for sale without a quoted price.

In total, the asking prices of 1,050 houses were considered (see Table F 4). As a yardstick for comparison, national figures for 1966 were used(7). In this connection it must be pointed out that the prices of new houses used in the national survey would tend to be lower than if re-sales of existing post-war houses

were used. This is explained by the fact that new dwellings tend to be smaller in size and further from the main centres of population(8). Bearing this difference in mind it is possible to make a number of broad comparisons between the national figures and those for the Durham Coalfield. The latter area had a lower proportion of houses in the lowest price categories (below £2,199) but a much heavier concentration into the next three groups (£2,500-2,999, £3,000-3,499, £3,500-3,999) with 71.5% of its houses, against 59% in the country. For Durham the largest proportion was in the middle of the three groups (29%), whereas nationally the highest proportion was in the higher group (21.7%). This clearly points to the heavy reliance of private housing development in Durham upon the sizeable estates of relatively low priced houses. For the price ranges between £4,000 and £6,500 Durham was under-represented in comparison with the country as a whole, though for houses priced above £6,500 the difference was lessened. Too much emphasis must not be laid upon these figures as certain vagaries stem from the figures themselves, but this should not detract from the significance of the heavy concentration within the Survey Area into the lower price categories, and in particular the relative emphasis upon the groups £2,500-2,999 and £3,000-3,499.

Price Distribution Patterns over the Survey Area

In order to analyse inter-area differences the Survey Area was divided into ten districts. The breakdown relies partly on a subjective view of the situation, but also takes into consideration the distribution of estate agents and the geographical divisions used in property market quotations. The numbers of examples for

individual districts range from 49 to 215

Table (F 4) The Price Distribution of Houses in the Durham Coalfield in the U K (1966)

<u>Price Category</u>	<u>Durham (Resales)%</u>	<u>U k (New Houses)%</u>
Below £2,499	3 6	5 6
£2,500-2,999	19 7	17 5
£3,000-3,499	29 0	19 8
£3,500-3,999	22 8	21 7
£4,000-4,499	8 6	11 8
£4,500-4,999	5 7	8 1
£5,000-5,499	2 8	4 3
£5,500-5,999	2 4	3 7
£6,000-6,499	1 2	2.0
£6,500-7,499	1 9	2 6
£7,500+	2 4	2 9

The housing market patterns brought out by Table (F 5) broadly reflect local circumstances and the potential for housing developments in various price categories. Basically this is reflected in the division between those areas with a bias towards the higher price categories, which include the main conurbation districts and the inner suburban areas (Baldon, and West Tyne), and on the other hand, the areas of later suburban development and the mining districts which contain the independent urban centres of Consett, Bishop Auckland and Durham with their own spheres of influence. The position of the median price clearly differentiates the two groups. For the districts centred on Chester, Houghton,

Durham, Consett and Bishop Auckland it falls within the price range £3,000-3,499, while for Sunderland, Central Tyne and West Tyne it falls within the next highest category (£3,500-3,999) and for Boldon, in the category £4,500-4,999

Table(F 5) The Percentage Distribution of House Price into various Categories

Price Category £ '000	Central Tyne	West Tyne	Sunder- land	Boldon	Washington	Houghton	Chester	Durham	West Durham	Total
2-2 499	-	1 5	-	-	-	12 3	1 4	2 2	16 2	3 6
2 5-2 999	7 4	17 6	7 3	-	28 6	30 8	23 7	38 0	26 5	19 7
3-3 499	27 9	26 8	17 4	7 3	49 0	35 4	38 1	35 9	27 9	29 0
3 5-3 999	29 4	31 2	38 4	17 1	16 3	18 5	20 5	10 9	10 3	22 8
4 0-4 499	14 7	8 3	15 2	19 5	2 0	1 5	6 5	6 5	2 9	8 6
4 5-4 999	8 8	7 8	6 5	13 4	-	-	4 7	4 4	2 9	5 7
5 0-5 499	2 9	2 4	2 2	14 6	-	-	1 9	-	2 2	2 8
5 5-5 999	5 9	2 4	2 9	8 5	2 0	1 5	1 4	-	-	2 4
6-6 499	1 5	0 5	2 9	3 7	-	-	0 5	1 1	2 2	1 2
6 5-7 499	1 5	-	5 1	9 8	-	-	0 9	-	2 2	1 9
7 5+	-	1 5	2 2	6 1	2 0	-	0 5	1 1	8 1	2 4
Sample	(68)	(205)	(138)	(82)	(49)	(65)	(215)	(92)	(136)	(1,050)

It was pointed out (see P 225) that for the Durham Coalfield there is a stronger emphasis upon the price categories £2,500-2,999 and £3,000-3,499, than in the country as a whole. Within the Survey Area there is a division into those districts with an even stronger concentration into these groups, and those with a relative shift in emphasis towards the higher groups. The latter is demonstrated most strongly in the case of Boldon, where for each of the price categories above \$4,000 the local proportion is between two and six times that for the whole area. In the Sunderland district there is a relative emphasis upon six categories, those between £3,500 and 4,999, and those between £5,500 and 7,499. Similarly for Central and West Tyneside the emphasis falls on the price range £3,500-6,000. For the remaining districts the relative emphasis is confined to the three lowest price categories £2,000-3,499, except that in the case of West Durham, an area with a split personality, there is heavy concentration into the two lowest price categories and into the three highest categories at the other extreme. This is the only case of such an overlap, as in all other instances there is a clear division between types.

With regard to the pattern of price variations for individual settlements and for the ten component districts which make up the housing market for the Durham Coalfield, the measures of variation (see Table T 6) indicate that this is much less for semi-detached houses than for all house types taken together, and also for bungalows. Hence there is a high degree of comparability for a fairly standard item such as a 3-bed-room semi-detached house, and variations in the average house prices should reflect quite closely the price level potential of different locations.

Table (F 6) Measures of Variation for Different House Types

	<u>3B R Semi-detached houses</u>	<u>All houses</u>	<u>All unga- lows</u>	<u>Total dwellings</u>
Standard Deviation	17	59	40	56
Inter-quartile range	28	40	44	37
% Range about Mean ($\bar{x} = 33.9$ 100)		47.5	81.0	51.8

Price Variations for Three Bed-Room Semi-Detached Houses

From the scatter diagram, values for average prices were classified into 4 levels -

- (1) Above £3,700 (2) £3,500-3,700 (3) £3,050-3,499 (4) Below £3,050

The mean value for the Survey Area (£3,500) separates the two top groups from the two lower ones, but the largest number of values clustered around the median (£3,370) and lower quartile (£3,130)

Map (F 1) illustrates the distribution of settlements classified according to the four price levels. Five of the seven residential areas in the top group are in the Sunderland area, which thus forms a marked zone of high average prices. The other representatives are Low Fell and Durham City. In the second category above the general mean is a more scattered group which includes Felling, Springwell, Chester, Houghton, Whickham, Ryton, Rowlands Gill. The largest number of settlements come into the third category and comprise a broad group in the central mining area, with an extension east of Durham. There are also sporadic examples in the west.

By taking the mean values of house prices for the ten component districts a clear outline of the regional pattern is obtained. Only three of the ten districts have figures above the overall mean. These

form the primary "high" in the north-east, in the Boldon and Sunderland areas, and the secondary "high" of Central Tyneside. Around these core urban areas and high status residential areas of the conurbation periphery are grouped the districts around Chester, Washington and Houghton in the centre, and West Tyne, with price levels in an intermediate range. Bishop Auckland falls within the same category, but is something of a special case, which is accounted for by the fact that in spite of the economic difficulties there exists a local demand for modern private housing, but not on sufficient scale for large estate developments of the cheaper house types. The districts where the lowest levels prevail, are those centred on Consett and Durham, areas which are peripheral to conurbation influences and where the principal impulse for housing development stems from the local employment centres.

The housing market may be viewed as a whole, though it is made up of a number of sections, higher average price levels prevail in the core urban centres of demand than in surrounding villages. This applies over much of the centre and east, but the situation tends to be more complex in the north-west where there is a mixture of highs and lows.

Price Variations for All House Types

The introduction into the picture of other house types, namely detached houses plus a small number of terraced houses has the effect of exaggerating the difference between the higher and lower prestige residential areas. This is seen in the various distribution indicators (see Table) Nevertheless, the variation between settlements

is less for houses than it is for bungalows. The same procedure as was used in the examination of price patterns for semi-detached houses was adopted, with four price categories, two above and two below the overall mean. The pattern itself is much the same, although certain features are brought out more strongly. Thus the largest area of high prices remains that in the north-east, but it is noticeable that another zone emerged in the Derwent Valley, this comprises Bridgehill, Shotley Bridge, Ebchester, Hamsterley Mill. The last place has a mean figure of £9,490, but is a very specialised case and comprises a sizeable development of large detached dwellings on large plots and priced at £7,500 upwards. On this scale it forms a unique post-war housing development in the Durham Coalfield. Other zones with relatively high prices exist at Whickham - Low Fell, and Durham City plus the Shincliffe area(9). Around the zones of high average prices are grouped residential areas with lower averages. In the intermediate category (£3,400-3,800) are the urban centres of Chester, Houghton, Washington, Wainlaton, Ryton and Bishop Auckland. Out of the total of 41 residential areas 17 have average prices below £3,400 and these complete the picture, forming concentrations in the central zone around Chester, Houghton and Durham. However the lowest figures occur in West Durham.

Examining the housing market on the basis of the ten component districts, the picture is broadly similar to that for semi-detached houses (compare Maps F.1-3) except that the Houghton area slips into the bottom group, and West Durham is in an anomalous situation, due to the distorting effect upon the overall mean of Hamsterley Mill(10)

Price Variations for Bungalows

For bungalows there is a wider range of values, and, though prices are generally lower than for houses(11) there are a number of notable exceptions, these include Whickham, Whitburn and Chester le Street. At opposite extremes there are settlements having concentrations of expensive detached bungalows, as at Hamsterley Mill, Rickleton, Whickham and Whitburn, and those to which large estates of small semi-detached bungalows are attached, as epitomised by Shiney Row, Ouston and Gilesgate Moor. The main areas of high average price levels remain those centred on Sunderland and the Derwent Valley, but another relative high emerged at Chester - Rickleton, and Whickham and Ryton are also emphasised. Residential areas with intermediate values are concentrated in areas near to Tyneside, especially in the west. Lowest figures occur in the areas furthest from the conurbations.

The picture with regard to the ten component districts differs from that for houses on account of the increased emphasis upon West Tyne and West Durham, along with the reduced significance of Central Tyne, the Houghton area and South-West Durham. The dual importance of the north-east and north-west would appear to stem on the one hand from the area's accessibility to important centres of employment, and, on the other to the suitability of the attractive dissected topography for bungalow developments.

Price Variations for All Dwellings

The figures for all dwellings included together (see Map F 4) illustrate that the highest means occur in the major centres of

demand in the residential areas within the conurbations and those on their immediate periphery. It must be pointed out in this connection that for lyneside high priced residential areas are more common on the north bank in such areas as Gosforth, Ponteland, Whitley Bay and Cullercoats. This means that by just considering South lyneside, the situation is incomplete with regard to the higher price categories. The zone of intermediate price levels is based on the suburban districts of West Tyne and the Chester group of settlements, though the independent centre of Bishop Auckland also comes into the same category. The districts with mean prices below £3,400 constitute the peripheral and "residual" locations for estate developments tributary to the conurbations, though in the case of the Durham and Consett districts there is also a strong local orientation. Large estates of houses in the cheaper ranges have been forced into these areas, once more attractive, or better located sites had been developed, or been earmarked for more expensive housing.

A Consideration of the Average Prices for New Houses in the Survey Area During 1966

During 1966 the great majority of new estate houses being offered for sale were priced between £2,500 and £3,200, although detached houses were priced £3,200 plus, and upwards of £4,500 on the better estates. Within the upper price range, in addition to the small number of high priced detached houses on what are otherwise ordinary estates, there are the small estates of expensive houses, usually built by one or more small local builders. The latter developments have frequently taken the form of infilling vacant sites

within existing high quality residential areas, but, as was pointed out earlier (see P.128) opportunities for this have become increasingly limited. This form of operation occurred within South Shields, Sunderland and Chester le Street, but by 1966 virtually the only case underway with houses advertised on the open market was in Durham, where houses on the Springfield Park Estate were advertised at between £6,400 and £8,000. Small estates of similarly priced houses were underway at Shincliffe Bank Top, at between £4,200-4,800, and at Hamsterley Mill at £7,750 plus. However it is necessary to point out that frequently higher priced houses do not enter the open market as new houses, because they are custom built to the specifications of the purchaser, or find buyers early on who then have some say in the design and construction. This proved to be common in the Boldon and Lanchester areas, where questionnaire surveys were carried out (see P 165). A frequent criticism levelled at the Durham Coalfield is the shortage of modern "executive homes" on the housing market, and during 1967-68 major firms such as G Wimpey (at Sunderland) and W Leech (at Shincliffe Bank Top) attempted to cater for a market for houses with prices over £5,000.

On the estates of lower priced houses which characterise certain settlements, the builders erect numbers of house types at varying price levels. The total pattern is complicated by this, and also by the distinction between freehold and leasehold estates, and by the presence or absence of garages, along with a whole range of possible fittings or extras. Hence a detailed comparison of all estates is virtually impossible. The best alternative is to consider the prices of certain standard house types by particular builders in different locations.

The largest firm operating in the area is William Leech, with at least ten sites underway at anytime. A comparison has been made

of the price patterns for three bed-room semi-detached houses in 1965 and 1966. From an examination of prices obtaining at each site, they were classified into three levels, with minor changes between the two dates, which were accounted for by the overall increase.

Table (F 7) Sites Under Development by W Leech - Prices of Semi-detached houses

<u>1965</u>	<u>(£)</u>	<u>1966</u>	<u>(£)</u>
South Shields	4,200	Low Fell	3,600
Whickham (Dunston Hill)	3,550	Silksworth	3,400
Washington Moor	3,150	Vigo	3,050
Low Fell	3,070	Kirk Merrington	3,050
Chester le Street	2,950	Ouston	3,010
Rowlands Gill	2,900	Nettlesworth	2,950
Ouston	2,815	Chester le Street	2,910
Blaydon	2,800	West Auckland	2,905
Houghton	2,800	Belmont	2,760
Framwellgate Moor	2,700	Framwellgate Moor	2,610
West Rainton	2,700	Consett (Delves)	2,550
Belmont	2,550		
Consett(Delves)	2,450		

Price Divisions -

(1) £3,000+	(1) £3,400+
(2) £2,800-3,000	(2) £2,900-3,100
(3) Below £2,800	(3) Below £2,800

The three price divisions at each date signify three broad zones of activity -

- (1) An inner zone around the conurbations where the highest prices obtain within and on, the immediate periphery of the main urban areas
- (2) An intermediate zone in the area of suburban estates in the districts of West Lyne and Chester-Houghton
- (3) Lowest price levels in the suburban estates of the Durham and Consett areas

A number of changes occurred between the two dates, which despite being so close together appear to mark a fairly significant change. This is seen in a contraction of operations within the first zone, by a concentration of the activity of zone two into the Chester area, plus the emergence of a new area of activity in the South-west at Kirk Merrington and West Auckland.

Although William Leech has the largest number of sites under-way at any time in order to obtain as full a picture as possible it is necessary to examine variations in the prices of standard house types in different locations by other large firms such as G Wimpey, J T Bell, S McCullough and J H Fisher. The information relating to the Bell estates is the most comprehensive, and illustrates a number of points, despite the fact that only four directly comparable estates are available. In Table (F 8) the prices have been indexed to 100 for the highest values. For both houses and bungalows a number of standard types were available in each location.

The relationships which emerged between the different estates for each dwelling type were remarkably consistent, the median values for houses and bungalows differed very little, though the range between maximum and minimum figures for bungalows tended to be at least twice that for houses. The median values give an indication

Table († 8) Prices of Standard Dwellings Offered for Sale Simul-
taneously by J T Bell

<u>Houses-Type</u>	<u>H 3</u>	<u>H 4</u>	<u>H 6</u>	<u>H 7</u>	<u>H 11</u>	<u>H 12</u>	<u>(1966)</u>
Sunderland	100	100	100	100	100	100	
Whickham	98.8	97.5	97.4	98.1	97.9	96.7	
Ryton	98.0	96.6	96.7	97.3	-	96.4	
Durham	-	89.9	90.6	90.5	90.4	89.6	

<u>Bungalows-type</u>	<u>B 1</u>	<u>B 6</u>	<u>B 7</u>	<u>B 8</u>	<u>B 9</u>	<u>B 10</u>	<u>B 11</u>
Sunderland	100	100	100	99.7	100	100	100
Whickham	97.3	96.6	97.8	100	98.4	97.6	97.6
Ryton	96.6	95.8	97.0	99.2	97.5	96.9	96.8
Durham	88.4	89.2	91.1	90.6	92.2	90.7	90.8

<u>Median Values -</u>	<u>Houses</u>	<u>Bungalows</u>	<u>Total Range</u>	
Sunderland	100	100	(H)	(B)
Whickham	97.7	97.6	2.1	0.3
Ryton	96.7	96.9	1.4	3.4
Durham	90.4	90.7	1.0	3.8

of the scale and direction of the price gradient over the Survey Area, with highest prices in the north-east, decreasing gradually in a westerly direction and more steeply to the south. The lowest prices

were in Durham (Newton Grange), some 9-10% below those for identical houses on the edge of Sunderland, and between 6-8% below those on West Tyneside. However the scale of increase between 1966 and 1967 was greatest in Durham (12.3%), it was very similar in Sunderland (7.7%) and West Tyne (7.2%).

Evidence obtainable from other builders operating in 1966 tends to be fragmentary. Prices for identical houses being built by S. McCullough differed by up to 25% between their prestigious North Lodge Estate (Chester) and the Garden Farm Estate at the opposite end of the town and the Lumley Castle Estate in a neighbouring village. It is noteworthy that with the latter two the difference between the urban location and the nearby village was still quite sizeable (between 8-12%). However, contradictory evidence for the Leech estates in which prices were fractionally higher in the village estates (12) than in Chester, illustrate the pitfalls of generalising on this issue, where the nature of the site is extremely important in addition to the purely locational factors.

For identical houses offered for sale by J. H. Fisher in Wardley (Felling) and Lanchester, the prices in the rural location (Lanchester) were between 7.5% and 11% lower than in Wardley, a rather ordinary residential area on the conurbation periphery. However an indication of the greater potential of the commuter village is given by the fact that the prices of the most expensive houses were higher (£5,000 plus, against £3,900). In the case of Wimpey estates it is not possible to compare the prices of identical houses, though while building houses at Sunderland in the range £4,300-£5,600, they were building in the range £3,100-3,625 some 2½ to 3 miles away in Houghton le Spring.

It is not possible to quantify all the price variations from the evidence available, but the main factors which combine to produce differences can be listed as -

(a) Land values, which comprise the principal expression of all the factors, (b) the distance from the major employment centres, (c) the general residential desirability of the location in terms of its attractiveness, (d) possible variations in construction costs - e.g. in terms of the costs of servicing the land, which varies according to the site and its size, (e) the "potential" of the location which can be exploited by the builder in terms of excess profit.

The conclusions which can be tentatively reached from this piecemeal evidence reinforce what was stated earlier with reference to price patterns for re-sales (see P 222) There is a general fall-off in prices from the "high" in the north-east, this is more gradual moving westwards than it is in a southerly direction. The process of greater amenity, such as the urban centres of Chester and Durham, as against the surrounding mining villages colonised by the more uniform suburban estates. Lowest house prices generally obtain in areas furthest from the conurbation influence, though in the Consett and Durham districts, for example, there are also pockets of high prices. The Leech figures point, once again, to the fact that prices in the extreme south-west are not the lowest of all, as might be expected, the area is least dependent upon conurbation influences and so far local demand has not been sufficient to initiate the large-scale estate developments which produce the lowest prices.

No single approach to the analysis of house prices presents a complete picture, and so all the approaches used have been combined into a subjective classification of residential areas according to

their price make-up (see Map F4) the criteria used are simply the existence of (a) varied housing stock with representatives from all price levels, (b) sizeable estates of lower priced houses, (c) small exclusive housing developments. The distribution illustrates clearly the housing market areas tributary to the conurbations and to the independent centres, Durham, Consett and Bishop Auckland. Alongside the general housing market pattern there exists in the north-east a core zone of high prices. It has been pointed out (see P 229) that the housing market for South Shields is truncated, due to the concentration of high quality residential developments on the north bank, this helps explain the emphasis upon higher prices around Sunderland and South Shields, the furthest conurbation centres from Newcastle. The distribution of uniform estate developments and of small exclusive housing areas, around the areas with varied stocks, illustrates the relatively straightforward arrangement of the housing market. There exists a strong overall linkage between the various components, alongside the orientation of individual areas about certain local centres of importance.

REFERENCES TO CHAPTER VIII

- 1 J McAuslan, "Residential land values, 1962-65", Chartered Surveyor, V 98, No 11 May 1966, 598-609
and, P A Stone, "The price of sites for residential building," Estates Gazette, V 189, No 5138, 1964, 85-91
- 2 These concern the prices quoted in the property columns of the local and regional newspapers. Care was taken to include each property only once, and the last asking price was used.

- 3 The Occasional Bulletin of the Co-operative Permanent Building Society, No 75, Nov 1966
- 4 The Newcastle and Gateshead Building Society, the Halifax Building Society, the Corporation and Eligible Building Society (South Shields), and the offices of the Northern Rock Building Society at Gateshead, Sunderland and Bishop Auckland
- 5 Occasional Bulletin of the Co-Operative Permanent Building Society, No 77, 1967
- 6 The Journal, Northern Echo, Evening Chronicle, Sunderland Echo and Durham County Advertiser
- 7 Occasional Bulletin No 77, op cit, tables of the price distribution of new houses sold during the first two quarters of 1966 in Housing Statistics No 3, H M S O , 1966, exhibit very close similarity with those of the Co-operative Permanent Building Society for the whole year
- 8 Occasional Bulletin, No 76, Dec 1966
- 9 Insufficient sample prices were available to bring this out
- 10 Mean £3,730 with inclusion of Hamsterley Mill, £3,150 when it is excluded
- 11 £3,540 against £3,790 for the Survey Area
- 12 Vigo, Ouston, Nettlesworth

CHAPTER IXA Conceptual Model of Post-War Private Housing Development

In view of the overall importance of the public sector in the post-war expansion of settlement, the reason for emphasizing private construction may be questioned. The significance of private building lies partly in the fact that it is free to adjust to the market forces originating in the growth sector of the regional economy, in contrast to the "guided" aspects of public authority development, nevertheless, in this context there is some relevance in Pahl's statement that, "Market conditions permit the builder to lead and educate, rather than to follow demand", (1) despite the fact it was said about Kent where conditions are very different from those in County Durham. Also, within the Survey Area 62% of private housing was completed in the period after 1960, During the same period only 29% of the public authority total was completed. Thus with its greatly increased rate of development and freedom of action private building may offer a guide to the processes which will affect the settlement pattern in the near future, it is quick to reflect changes in spatial relationships in a settlement system, and so is very important in Durham where two distinct systems are being drawn into closer interaction.

Since 1960 there has been a general quickening in the pace of change with regard to the various aspects impinging on housing development and the expansion of settlement. Compared with the trends apparent during the decade 1951-61, there was a polarisation at opposite extremes during the years 1961-66. This applied to the

indices relating to private and council housing, to the organisation of the building and construction industry, and to the demographic indices which both reflect and condition the housing developments. The changes occurred against a background of continuing decline in the heavy industry staples. J W House has written of the impact of colliery closures moving eastwards into hitherto prosperous mining districts(2)

The major trends differentiate three groups of authorities -

(i) The inner conurbation areas of the contiguous built-up areas of the riverside industrial zones. It is into this area that major public authority building was concentrated during the period 1960-66 (see Figure B 2), however apart from this, indices relating to the area indicate certain characteristics of decline. Since 1960 population has declined, there has been heavy outward migration, and slow rates of increase in household numbers.

(ii) The intermediate zone between the conurbations and the coalfield periphery is an area of stability in terms of public authority building, but contains the major concentrations of modern private housing, which for the years 1961-66 resulted in an increasing population, net migration gains, and the most rapid rates of household increase.

(iii) In the peripheral colliery districts of the west and south-east general decline is indicated by a poor showing in the comparative indices relating to housing and demographic characteristics. Hope for the future lies largely in the growth points provided by the New Towns, and the beneficial effects of concentrated development.

in certain localities, such as Bishop Auckland

The true "growth zone" within the Survey Area is not that delimited in the Hailsham Report (3), but the second area in that part of the coalfield increasingly influenced by the conurbations. It already contains a close network of towns and villages, which therefore produces a pattern of suburbanisation different from that normally exhibited in the tributary area of an expanding city region. From being tightly-knit and compact riverside industrial towns, the urban centres of Tyneside-Wearside have spawled outwards with large areas of loosely textured residential development, furthermore, they are extending their influence into former mining districts, despite their own economic problems. This process occurs in a number of ways - through the movement of population, the extension of the spheres of influence of the conurbations as workplaces, and through Newcastle-based building firms moving into the mining districts to dominate housing construction there. Major nodes of modern manufacturing industry are concentrated into a central area accessible to a large labour pool both within the conurbations and in the mining districts. This applies in particular to the Team Valley - Birtley - Washington zone.

The Suburbanisation of the Mining Districts

The mechanism of housing construction has been used here to study the process of urban development, its interpretation is aided by the use of statistical models, though it is not possible to produce a mathematical model. Nevertheless there is a need to synthesise the various findings of the study into some sort of

conceptual frame

Broadly speaking the two factors which need to be isolated are, firstly, the relationship between demand and occupational structure, and secondly the supply relationship between the type and quality of housing and the focal points of demand

The Demand Relationship The great majority of the population of the area does not enter the modern private housing market for a number of reasons, which are centred on the prevalent attitude towards, and ability to purchase, a house. Furthermore, County Durham is a major stronghold of public authority housing, because of its political affiliations, the endemic problems in the economy, and the traditional association of its population with rented accommodation(4)

The questionnaire surveys indicated that while professional and managerial occupations, plus small employers, form only 9.6% of total economically active heads of households, they generally account for over half the movers to modern private housing. The second important group was that of skilled and technical workers in the modern industrial sector. Wide variations existed between different locations and different types of housing. The former groups were concentrated in the "mixed" housing areas related to important centres of office employment, especially the conurbations and Durham, the second group were more a feature of the large estate developments related to the nodes of modern industrial growth. The traditional heavy industries were poorly represented, and coal mining accounted for less than 4% of movers. The only

exception encountered was in West Durham where Consett Iron Company supplied a sizeable proportion of movers to the Leech estate at Lanchester

Significant numbers of movers to modern houses were in three groups which are not subject to the normal locational restraints, namely area workers, naval personnel and retired people

The Supply Relationship

The relationship between the quality of housing and the focal points of demand has been considered in terms of the distribution of house prices (see Chapter VIII) Alonso(5) postulated a scheme in which the poorer section of the population lived at high densities in housing close to employment centres, while the wealthier people lived further out on larger plots of land. In County Durham such theoretical arrangements are destroyed because of the prevalence of council housing, and the specialised nature of the settlement pattern. From a consideration of generalised price levels (see Figs F 1-4) it can be seen that the opposite applies, and the highest price levels occur close in to the conurbations, from where there is a progressive decline moving outwards. In this case it would appear that cheaper houses compensate for the cost of overcoming the "friction of distance", instead of larger plots as in the Alonso scheme. The way this pattern has come about is that the more attractive settlements close in were the first to be developed by private enterprise, since when construction has moved outwards into less attractive mining settlements, and so the peculiarities of the local situation may entirely account for the

reverse order

The Pattern of Private Housing Development

The pattern of development is considered in idealised stages

(1) A small number of private houses have been built in many of the mining settlements. They reflect the presence of a small number of people in any community who can afford to, and who wish to, have their homes there. Frequently the people concerned are in the entrepreneurial (e.g. small employers or shopkeepers), or in some way "leaders" of the community (religious or political). In addition, local government employees form part of the house buying group which has strong local affiliations, as do teachers in some cases. Altogether these groups form the small ubiquitous element which has resulted in the gradual development of small numbers of houses built by the small local firms. Because of their numbers they are scarcely noticeable in any but the smallest mining communities.

(2) Where local demand has been at a somewhat higher level it has initiated a local residential cycle, often with an element of re-grouping from the surrounding district. At this stage it appears that certain groups, such as teachers and area representatives, while being ubiquitous in the same way as members of the first group, are more mobile and tend to exercise greater selectivity in their choice of where to live. For this reason they have played a prominent rôle in the initiation of the "local housing cycle". This was most clearly demonstrated in the case of Lanchester, which contained large numbers of teachers who worked all over Western and

Central Durham (see p 20C) In the case of Chester and Houghton the local demand and regrouping aspects were important before the full-scale development of the towns as conurbation dormitories. This difference is seen in the contrast between the early estates of North Lodge and Gillas Lane, and the later developments in the towns (see p 177)

Corresponding with this "local" stage of demand it appears that local building firms sometimes enjoyed a considerable degree of success, before they either overextended themselves, or became overshadowed by major regional firms where these moved into the area. At Lanchester in the early stages of private development the work was in the hands of a number of local firms the largest of which was Iveson Brothers, but when this firm went out of business a number of Newcastle firms were able to completely dominate the suburbanisation of the settlement. Similarly, at Carrville near Durham initial housing development by P E Coleman met with an unexpected degree of success which resulted in the extension of the Blue Farm estate stage by stage. However, when the larger firms moved in to the area, the financial position of Coleman worsened until eventually the firm went bankrupt.

At the time of the survey, in 1966-67 Spennymoor and Hetton were at the "local demand" stage, as were the smaller settlements of Pelton, West Rainton and Burnopfield. Evidence of this was to be seen in the existence of small housing estates, as opposed merely to the piecemeal housing developments of stage one. The "suburban" phase is initiated with the development of large estates, which

largely takes place when a major firm or number of firms move in to the area. This process was in its early stages at Bournmoor, Nettlesworth and Witton Gilbert. The greater sales resources of the major firms means that they are able to sell the houses to a wider market.

(3) The large estate developments which are indicative of the suburban phase generally require an outside stimulus, as the scale of building is far above that required to satisfy local demand and the needs of regrouping. Settlements which have reached this stage are related either to the port conurbations, or to the much smaller centres of Durham City and Consett. The separate tributary areas to these centres do in fact line together to form one general zone of suburbanisation. The selectivity of this process has already been mentioned (see p 124), in addition, it is worth pointing out that as many of the more favourable localities have been developed, further building is forced to colonise less favourable "residual" locations, which are often closer to the point of origin of the demand. This is a similar process to that described by Garner(6) in Chicago as a "leapfrogging" of growth backwards and forwards with no discernible regularity. Also he indicated that growth took place firstly around the radial routeways, and at a later period in the interstitial areas between them. In the case of Durham part of the explanation lies in what was stated earlier about building firms being in a position to lead demand (see P 239), as it is the availability of housing that really matters, and hence the sites which the builder chooses to develop,

within certain limits of likely consumer action, are what determines the eventual pattern

At the suburban stage the scale of construction is such that only a small number of firms have sufficient resources to undertake it successfully, and so there is a heavy concentration upon a small number of major firms, most of which are based in Newcastle. Local firms have not generally benefitted by the suburban "explosion", and have been going out of existence at an increased rate since 1960

(4) The more mature residential areas take the form of "composite" residential developments. In these cases the scale of building has been quite high, but instead of large uniform estates, it has taken a more varied form with developments of all sizes containing a variety of house types, built by numerous different building firms, both large and small. The main towns of the coalfield contain residential areas of this type, as for instance in Durham, Consett (Benfieldside) and Bishop Auckland, while Chester, Whickham and Ryton have developed more specifically as dormitory communities for Tyneside

(5) The final stage is the most specialised and restricted in occurrence and may be termed the "Green Belt" stage. It is exhibited by reasonably attractive communities where restrictions have been placed on further growth, as in Cleadon, East Boldon, Whitburn, Shincliffe and Springwell. The effect has been to make the settlements more attractive places in which to live, and with the increased status and resulting pressures for development, a premium is placed upon the few available sites for building. In the case

of Cleadon it was found that there was an increase in the relative importance of internal movement, and an intensification of development by means of re-development and building in gardens and back-land. This was referred to earlier as the "second stage estate development" phase to differentiate it from the "first stage" which marked the initiation of the modern suburban cycle (see P 180). Local building firms have been able to survive in this sort of environment, but they are being adversely affected by the slow-down of building.

Settlements which contain expensive modern housing, but which have been developed on a smaller scale, outside the Green Belts, are Hamsterley Mill, Ebchester, High Rickleton and Brancepeth. These are the most specialised elements of all in the pattern of suburbanisation.

The stages of the private housing cycle considered here represent a movement along the residential spectrum, though it does not follow that a settlement would pass through each stage in succession. The final stage, in particular, is so specialised as to be attainable in a small number of cases. Furthermore, there is inevitably a degree of segregation within the private sector along socio-economic lines between different housing areas.

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CHAPTER X CONCLUSIONTHEORETICAL BACKGROUND(a) Studies of Urban Structure

People have frequently thought of cities in terms of idealised patterns, and theories have been put forward which attempt to generalise about the arrangement of the social and economic units, with their resulting land-use patterns, within the city. The earliest important work in this field was associated with a group of urban sociologists of the Chicago School of the 1920's and 1930's. The Concentric or Zonal Theory was devised by E.W. Burgess in 1923(1). In this model the development of a city was assumed to take place outwards from the central area to form a series of concentric zones. The central area, at the point of intersection of radial routeways, possessed the maximum accessibility, and so all users of urban land were sorted in accordance with their ability to benefit from, and bid for, the use of land in the most accessible locations with regard to the other establishments with which they had linkages. Burgess also introduced the ecological concept of succession(2) in which each land-use zone expanded at the expense of the next one out towards the periphery, terms used to indicate various stages in this process include "invasion", "dominance" and "succession".

Homer Hoyt suggested a modified model, the Sector theory, in 1939(3). Contrasts were based upon variations in land rents, and zones of similar land-uses were arrayed in wedges about the principal routeways and growth occurred directly outwards. The

second modification produced the multiple-nuclei theory, which was proposed by C D Harris and E Ullman(4) It was suggested that cities have an essentially cellular structure with different land-uses clustered about particular nuclei within the urban area This involves an attempt to cope with the peculiarities existing within individual cities as a result of site and historical factors, hence there was no standard arrangement of the component parts

The early models of urban structure offered a framework for the study of urban areas, though they have been criticised on account of the fact that urban growth was rationalised to such an extent that the patterns became gross oversimplifications of the complexity within the modern city Also, the schemes were mainly descriptive, and in the first two theories the resorting of population to fit the schemes was both mechanistic and deterministic In order to avoid these shortcomings W Firey and E Jones have endeavoured to consider the peculiarities of human behaviour(5) Firey maintained that groups of individuals have values and desires and it is their action on these that locates them in space and sets up observable patterns Emrys Jones in his study of Belfast emphasised the importance of cultural and social values upon peoples' actions

(b) Investigations into the structure of city regions and the processes behind suburbanisation

Even from the relatively straightforward theory underlying the classical concepts of urban structure, modern research has been concerned with the great complexity of the city region and the processes of development However considering the scale

of modern developments and the overall importance of the residential sector in this process, relatively little work has been published on the subject(6)

In the United States, attempts have been made to develop mathematical and simulation models of suburbanisation(7) Initially, attempts were made to balance the cost of travel and the price of land, according to the income level of the household, though increasingly studies have incorporated a wider range of variables. In the work of F S Chapin and S F Weiss in the Piedmont cities of South Carolina(8), the range of factors considered included, contiguity with existing development, proximity to blight, the marginal quality of land, urban amenity, nearness to arterials, the value of land, nearness to work places, schools and shopping, and the availability of sewage facilities. It became apparent from their research that intensification of development occurred where there were major routes, employment centres, good community facilities and services, development was discouraged where physical conditions were unsuitable due to flooding or steep slopes, and in areas near to blighted zones. Chapin and Weiss also stressed the important role of the decision-makers, "we may conceive the land development pattern of a city at any particular point in time as the cumulative effect of a myriad of decisions and actions by individual entities and groups, consisting of households, institutions and governments"(9).

Although the processes operating in North America and Europe are broadly the same, the resulting patterns are likely to differ, on account of the greater complexity in the European situation. There are a number of factors behind this -

(i) The greater significance of historical factors in Europe, which lead to local peculiarities, such as the attraction of those settlements which contain period houses, and the negative aspect of industrial despoilation

(ii) General cultural differences and the time-lag which stems from lower levels of technological and economic development, also the fact that in Europe society is more traditionally-based

(iii) The scale of government interference is generally greater in terms of planning regulations and policies, and also in the field of housing provision

Despite these general differences, modern trends in both areas have much in common. Man is now able to distribute himself widely in a metropolitan region and still remain part of the urban system. Hence sociological and psychological factors in decision-making have assumed great importance. The choice must however still be made within the range of alternatives which urban society presents. In view of the scale of change it has been suggested by some researchers that modern developments in the rural-urban fringe are symptomatic of complete chaos and lack of order. For the metropolitan regions of Los Angeles, the North-Eastern Seaboard of U.S.A., and London, Ruth Glass(10) refers to the fringe using terms like, "vast and undifferentiated", "featureless", "monotonous", "chaos of a new order". Gottman(11) is more moderate when he states that, "a totally new order in the organisation of inhabited space is emerging". He describes the structure of megalopolis as "nebulous"

(12) Other workers have argued that the spread of population is far from being random, and that segregation according to social

criteria is increasing(13), Pahl claims that the change from hierarchical to segmented structures is one of the distinguishing features of the metropolitan fringe(14) In this sort of situation what are stressed are the networks and linkages which exist between groups of people in similar circumstances Planners, such as L. W. Webber have begun to recognise this, Webber states that, "Alongside the neatly compartmentalised arrangements of urban settlements, such as show up in Central Place maps, recent findings are beginning to uncover networks of interdependent but functionally specialised social and economic communities "(15)

The expansion of man's radius of action and choice of living space has been viewed by Hoekveld(16) as an "expansion of scales " He defines a scale as "the area within whose boundaries man, acting from the 'folkatom' is prepared to make given sacrifices to satisfy given needs " Formerly the settlement itself could be taken as the scale of living as it encompassed the major scales, such as the need for housing, work, social contacts and recreation. This applies no longer scales have been pulled apart, and these needs can be satisfied in different places, which though dispersed are still related to one another Similarly, Kant(17) says with reference to the changed pattern of spatial relations and the new scale of local distance, that while this process is regarded as the anti-thesis of former centralisation and agglomeration, he regards it more as "subcentralisation", or decentralisation within an urban structure It is a process which creates an urbanised region around the main agglomeration Carrying this argument further, Boal(18) states that "space adjusting" to modern technology enables

the development of a "flexible city", but as Borue(19) contends, "gradients, sectors, and indices of linkages we observe to-day are measurements of current activities cast in a mould built over a long period of time". The limiting factors include the conservatism of the population at large, the "protectionist" element, and often planning policy as well.

It is becoming increasingly difficult to describe most towns as "free-standing," as every autonomous urban unit develops closer linkages and interchange with other centres of population. Hoekveld (20) outlines two lines of development by which settlements are drawn within the zone of influence of a metropolis. The terms used are cumbersome, but the processes are very relevant. The first is "allochthonous" development in which there is an influx of commuters and retired people from the metropolis and/or a movement of industry. The second is "autochthonous" development in which the local population is increasingly drawn to the metropolis as a centre of employment, in this way the settlement becomes more dependent upon the metropolis, but without the accompanying feature of large-scale settlement by commuters.

A conceptual view of the expansion of city regions, and especially metropolitan regions, has been attempted from numerous viewpoints. Nevertheless, there is a certain unity of theory, despite the differences in emphasis and terminology. Here it is necessary to link the conceptual view to the consideration of the physical aspects taken by modern developments in the specialised context of the Durham Coalfield.

(c) Modern Developments in the Survey Area

In an area of economic difficulty, such as the North-East, it might appear strange that the conurbations should extend their spheres of influence to such an extent, in view of their own structural problems. An American worker, J R Thompson has written about the city-size factor in economic problems, he claims that, "Perhaps some critical size exists, short of which growth is not inevitable and even the very existence of the place is not assured, but beyond which, while the growth rate may slacken at times even to zero, absolute contraction is highly unlikely" (21). Within the Survey Area, Sunderland, in particular, has greatly extended its influence as the sub-regional capital, despite its fairly considerable economic difficulties. However, some hint of these may be indicated by the fact that Sunderland-based building firms have met with little success in competition with those based in Newcastle. Much of the outward movement of Sunderland commuters takes place to houses built by Newcastle firms (See P 177)

Concerning the form taken by modern developments within the area subject to greater linkage with the conurbations, it could be argued that the interlocking structures are those of a "dispersed city" (22), rather than of the rural-urban fringe distinguished around the margins of other city regions. Recognition of such patterns is partly subjective, as some people have pointed to the formation of a "linear city" along the axis of the A 1

Turning attention to the processes themselves, the increases in "scale" are clearly apparent in County Durham, where the isolation and self-sufficiency of mining communities has been broken

down. This has occurred because of the influx of young families into private estates, and also because of the loss of local employment, and the resulting need to travel further afield, many have been drawn increasingly towards the conurbations and their associated growth points. Both aspects conform to Hoekveld's scheme (See p 255) of allochthonous and autochthonous development. In terms of the housing mechanism, the former movement lies behind much of the private development which has occurred within the zone of suburbanisation. A high proportion of movers from the conurbations continue to work there (see p 205) although there is an element of decentralisation of workplaces in the Birtley-North Lodge-Great Lunley area, reflecting the "rudimentary satellite" status of that area. Presumably, this is what is intended with Washington New Town, a degree of self-sufficiency in the context of overall interdependence between the town and the port conurbations. The autochthonous form of development is even commoner, and a large number of mining communities have become, at least in part, dependent upon the conurbations. In terms of its expression in the field of housing this aspect is more a feature of council developments than private ones, though it was found (see p 205) that a sizeable proportion of the people who moved to new private housing from areas other than the conurbations travelled there to work. Much depends upon mobility patterns and the differential which exists between the car-based populations of the private housing areas, the more bus-dependent populations of the council estates, and the less mobile, generally ageing populations of the nineteenth century terraced housing. Reflecting these differences and

differences in background, progressively smaller sections of the work-force travel to the conurbations. The extension of conurbation influences has been almost entirely autochthonous in Stanley U D, but in most areas there has been a mixture of the two. Closer interaction between the two settlement systems has had a generally beneficial effect in the mining districts affected, but where it has not occurred, in the outlying districts, the drawbacks of a special-function settlement pattern inherited from the last century, are increasingly felt. Many of the communities have lost, or are in process of losing, their original *raison d'être*, without being able to find another. The policy of regrouping population and of establishing growth points may be effective in the long term, but as Durham County Council claims, "Even if it fails in the short term to stabilise population, it will at least have helped to gather it into well-located, compact units that can still be economically viable and socially functional at a lower density of settlement, and may eventually serve as nuclei for the renewed spread of development" (23)

So far housing has only been dealt with in terms of its role in the development of the settlement network. In addition, certain more specific conclusions may be drawn. During the period under consideration (1946-66) the main forms of housing development have been -

(1) the addition of clusters of "neighbourhood units" to the periphery of the conurbations, in form and appearance these generally reflect the period of development and the design principles in vogue at that time, though generally it is true to

say that the later ones are the more attractive and provide sounder communities

(ii) The local authority rehousing schemes within the main districts, and council extensions to the main towns. In these areas rates of construction have generally declined from the peak periods of the early housing drive, hence most estates reflect the more traditional and somewhat monotonous appearance associated with council schemes of that period. More adventurous approaches were tried in some areas, notably New Washington (prior to its designation within the new town) and the attractive housing of Peterlee New Town.

(iii) The third major element is the private enterprise building in which the majority of houses are detached or semi-detached, and are situated in estates with "traditional" layouts. The word "traditional," as used by builders, refers to the style of layout established after the First World War, it is a somewhat debased "Garden City" type. The builders complained that planners were forcing them to introduce layouts incorporating the principles of vehicular-pedestrian segregation. These, they claimed, were unpopular with the house-buying public, who were, by and large, conservative in taste.

Here it is necessary to remember the relative standing of the two housing sectors, and the fact that while public authority completions more than doubled in the period 1946-66, compared with 1919-39, in the private sector there was a 27% decline. The latter formed only 21% of post-war building overall, though it did increase to 37% during the third period (1960-66). Alongside these

trends, it has been shown (see P 60) that the Area of Concentration for council building gradually moved from the mining districts fringing the conurbations in the inter-war years to the conurbation authorities of the north-east quadrant by 1960, while for private building the movement was in the opposite direction. However, in view of the implementation of planning policies to avert the excessive urbanisation of the conurbation zone it appears that a new phase is being initiated in which public authority building will be focussed upon the New Towns and Townships of Washington, Peterlee and Silksworth. This represents a decentralisation of public building, similar to the trends apparent in the private sector since 1960. In view of the high standards of housing provided in these three major schemes, with a variety of house types built in some cases to Parker-Morris standards, plus their greater flexibility in the choice of residents now that the serious crude housing shortage has been alleviated, it has been suggested(24) that these towns, and especially Washington, will cater for part of the regional pool of potential house purchasers. It is planned to expand Washington by some 60,000, entirely through the free movement of population. The effect of implanting such large "planned" developments into the midst of the zone of suburbanisation, might be to slow down the rate of development of the numerous smaller private schemes in the area.

The movement of people to private housing operates through a social filter. However, differences in house sizes, once a clear indication of social status, have diminished markedly. In plan, at least, there has been a convergence in house types, so that now there is little difference between council houses and the

typical private estate house. In fact, by the 1960's the best council housing was of a higher standard than some of the private housing. As Emrys Jones noted in the case of Belfast, an area with similar modern economic problems, "By 1950 the industrial classes were better housed than ever before and the professional classes had never voluntarily restricted themselves to so small a living space" (25). Nevertheless, there remains the social desire to live among people of a similar background, plus the fact that private housing has enabled much greater freedom of movement, at a time when a long qualifying period on the housing list was needed to obtain a council house.

The neighbourhood units which have been created in the post-war years do not fulfill all the theories of sociologists and planners, but they do represent a more organic form of urban growth, which is an improvement on earlier developments. Many of the early examples appear somewhat drab and monotonous, but later ones incorporate better designs and higher densities, and appear altogether more attractive. Altogether the Survey area contains some notable successes and failures, though the urban environment has undoubtedly improved, the pace is likely to quicken with the continued run-down of the coal-mining industry which does so much to mar the area with unsightly waste tips and its other ramifications. The main problem is to provide a sound and attractive urban fabric which enables harmony to be established between living conditions and economic development.

In terms of spatial patterns the trend of overriding importance is the concentration upon the intermediate zone of the coal-

field, where the centrifugal forces of decentralisation from the conurbations, and the centripetal forces stemming from the outlying colliery districts, are balanced, this is truly the "subcentralisation" to which Kent(26) referred

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