An analysis of the processes operating in the rural-urban fringe with special reference to Canterbury

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AN ANALYSIS OF THE PROCESSES

OPERATING IN THE RURAL-URBAN FRINGE

WITH SPECIAL REFERENCE TO CANTERBURY

by

A. E. Smith

A Master's Thesis

submitted in partial fulfilment of

the requirements for the award of

MASTER OF PHILOSOPHY

of the Loughborough University of Technology (1985)

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AN ANALYSIS OF THE PROCESSES OPERATING IN THE RURAL-URBAN FRINGE
WITH SPECIAL REFERENCE TO CANTERBURY

by A.E. Smith

ABSTRACT

The Rural-Urban fringe has been somewhat of a neglected topic in Geography yet it has far reaching implications affecting choices for society in terms of the management of land use, of the level of services, of the provision of recreation, of employment and, above all, of the quality of the environment. This study attempts to consider the processes which cause pressure on land use over space and time. The investigation focuses on the City of Canterbury. It tries to assess the management of the demand from the urban area and the likely conflicts which the Planning Authority must face. It becomes apparent that there are forces which are even more fundamental - the constraints and demands placed on the use of land by society. Thus, economic, political and historical factors together with the structures of our society provide the explanation of the spatial patterns. This is demonstrated by the detailed empirical examination of two areas in the rural-urban fringe of Canterbury. The Study stresses the need for a flexible, holistic and dynamic approach.
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"CARENDO DISCIMUS QUAM CARA AMISERIMUS"

SENECA

(We learn the value of a thing when we have lost it)

CHAPTER I DEFINITIONS AND NATURE OF THE RURAL-URBAN FRINGE

A INTRODUCTION

The 'rural-urban fringe' is now becoming an accepted term in both Geographical and Planning circles. It is often used in the same manner as the term 'Central Business District' to denote an area of the city. However, one could immediately ask whether it suffers from the same problems of definition and from the same difficulties of mapping because uniformity and simplicity are seldom found.

"Land use patterns are after all the end product or Geographical expression of a large number of individual decisions made at different times for often very different reasons or perhaps for no adequate reason at all."

(Harvey, 1966)

Much of the literature is significantly vague and little attempt has been made to clarify it. The question has to be asked how far it is important to have a definition? Are we, having defined it, going to fall into the trap of being caught in one's own lexical term? One would feel that it is rather important to have some kind of definition for this area. After all it is an area and as such Geographers ought to be able to define and map it. If one fails to have some kind of definition then the base from which a study is started is necessarily going to be fragile.

"Scientific investigation, however, usually requires the use of more elaborate model concepts, the aim of which is to develop a structural representation of reality of sufficient accuracy to allow
experimentation and a more penetrating analysis of the relevant
variables in any real life situation."

(Harvey, 1966)

Probably what has been a failure in the past has been the
inability to define carefully and thus distinguish between different
types of fringe areas. It would seem that the term urban-rural fringe
is used to refer to areas which are between urban and rural land uses
i.e. some sceptics would state that nobody was able to make up their
minds. Consequently the word "rurban" was created. However, a serious
point occurs when the term urban fringe is used to refer to areas such
as the fringe in the Stockbroker belt of Surrey and the fringe areas of
Newcastle. It would seem that the term is used merely as a general
classification. The problem of usage is a real one. There is a real
danger that it is descriptive of a geographical area. This description
is not acceptable and the search must be for an analytical term. As it
now stands it would seem to suggest that the features of the fringe of
Newcastle and of Surrey are the same. They might be but surely they
must be different in degree. Accordingly, one would suggest that the
definition of a rural-urban fringe has to be more selective and
analytical. Georgraphers who use the term need to be more meticulous.
The rural urban fringe is an area far too complex to be left to a
blanket decision.

"The Rural-Urban Fringe may be defined as the area of transition
between well recognised urban land uses and the area devoted to
Agriculture."

(Wehrwein, 1942)

The definition of the urban fringe, illustrated in Map 1, is
important because there are distinct areas to which the term can refer.
This is shown not least in the difference between a physical fringe and
a functional one. Canterbury as the map indicates has three scales at
which this term may be used. The first is the physical fringe which
represents the edge of the built environment with a small amount of
DEFINITIONS OF THE FRINGE

District plan area (The area used by the planning authority)

Townscape (a physically built area)

Physical fringe (An area of recognised rural uses)

Scale: 1:50,000.

MAP. 1.
country area. If this definition is taken then a small spatial unit is to be considered. In most cases this is likely to prove an unsatisfactory unit as most of the causes for its existence lie outside the area. The second refers to a larger functional unit which takes into account some of the influences around the City and the physical fringe. This is the area of the District Plan. However, even this spatial unit does not take into account the real need of the fringe areas. The third unit is the fringe affected by pressures from Thanet, Dover etc., and it is somewhat peculiar that a sub-regional centre is not planned in a sub-regional context.

This study is not necessarily going to provide a better one. It is hoped that an improved understanding of the area may be obtained, particularly in terms of the processes that are operating and have operated there.

The Rural-Urban Fringe today provides a new challenge which has to be taken up as it has become an essential part of the urban landscape and, hence, Urban Geography. No Urban Geographer can talk about urban growth without referring to fringe areas. Agriculturists tend to stop where the city begins whilst planners and Urban economists remain within the city. (Wehrwein, 1942). With the increasing pressure and the need to bring marginal land into use the rural urban fringe has to be studied.

"The Rural-Urban Fringe is really an extension of the city itself actual and potential."

(Wehrwein, 1942)

One significant fact is that modern cities are dynamic and the spreading urban regime influences rural land use far in advance of the built-up area (Sinclair, 1967). Furthermore, urban society is reliant upon many of the uses which are found in the fringe and upon the functions of the 'bad neighbours' which are often found in this region. As this is the case the planner and the Urban Geographer must give it
full consideration. It follows from this that there must be many interests involved - the Agriculturist, the planner and, above all, the people who live and work there. There must be social, economic and political interests.

"Urban land today is much more valuable than rural land so where there is direct competition between Urban and Rural land uses Urban uses generally take over."

(Sinclair, 1967)

The above concept is quite in keeping with that of Von Thunen of economic rent - that land providing the highest rent is urban land use and it displaces rural land uses (Sinclair, 1967). One hopes to be able to weld the purely agricultural interest with a broader appreciation of the spatial interest. In the past these have tended to be separate. The Von Thunen model and the Burgess model do not mention the fringe area explicitly but a case could be made that they were included implicitly. Thus, valuable as the models have been, an integral and synthesising approach is needed. Burgess and Von Thunen should not be seen as separate identities but joined in harmony to show those areas where assimilation and discard take place. It is in the fringe that battles are being won or lost in specific locations, it is here that spatial conflicts of land use have to be fought. Are the planners aware of their responsibilities? It is here that conflicting interests are most marked not only in terms of Agriculture versus the Urban uses but also of the Urban uses in conflict with each other.

--- *** ---
Diagram 1.

WHAT IS THE FRINGE?

DATA COLLECTION

FIELDWORK

PROCESSES OPERATING

Agriculture  Planning  Recreation  Services  Transport  Industry

LAND USE IN THE FRINGE

LESSONS AND PLANNING POLICIES
B AIMS OF THE RESEARCH PROGRAMME

The aims of the research programme, outlined in Diagram 1 are reviewed, albeit briefly, in the following section.

As has been pointed out, the use of the term and the understanding of the rural fringe has been too vague and descriptive. It has slipped into geographical use with the impression that it is an authoritative and legitimate terminology. R.G. Golledge (1960) writes:

"The contact zone between urban and rural land use is virtually a geographical no man's land neglected both by geographers concerned with internal structure of the city and by those concentrating on urban hinterlands."

The implication of a geographical no man's land needs interpretation, for this study indicates that there is an area full of complex interaction worthy of analysis. Perhaps, even if one does not offer a precise definition, at the very least a better comprehension will have been achieved.

The research programme undertakes field work within the Canterbury environs of East Kent. The questions have to be answered - Why Canterbury and what justifies the choice of this city? Hopefully, the answers to these questions will be apparent in the subsequent sections. However, Canterbury does represent perhaps one of the most historic centres in the country, it is a city which has evolved and, if one is seeking for processes both past and present, then this would appear an excellent city to consider. The Cathedral is still the most dominant building and element within the City. Yet there are a number of pressures for change which can be identified whether it be in terms of transportation or post-war redevelopment which are both important in Canterbury. Furthermore, it is justified by the fact that Canterbury is the major sub-regional centre in East Kent and, of course, in terms of tourist attraction second to none - over one million visitors per
year come to the City. Development of the City has to be balanced with the fact that it is surrounded by farmland of high quality and farming is pursued up to the very edge of the urban areas. Conflict of interest is bound to arise and the study will attempt an indication of the issues.

In order to discover the processes which are operating fieldwork has had to be undertaken. There is naturally a wide range of fieldwork techniques from surveys to land use mapping. It is hoped to show how empirical case studies can be utilized to gain an understanding of the area not only in the collection of data but also from this to produce a methodology.

As indicated, the processes which operate in the fringe are obviously important. Indeed, to be able to understand these would go a long way to solving the problems which are found there. The problem is that processes which are taking place in the fringe may or may not be visible and obviously to measure a process is very difficult. In fact, the result of the process may be physical in terms of the loss of agricultural land but the cause may well be a behavioural or structural one but one readily apparent. As Found (1971) writes:

"It is doubtful if one could understand any land use situation well without drawing on the concepts of both the Economic and behavioural traditions."

The implication of Found's writing is that the role of image and perception should not be forgotten and to grasp fully the rural-urban fringe one needs to take into account the attitudes of people who live there. The research programme will attempt to consider the results of processes e.g. the changing pattern of land use, the role of transportation, recreation and the provision of public utilities but also attempt to find the cause of the change.

In addition to this because, on the one hand, of financial
constraints inspired by government and, on the other, of society demanding results, Geographers have been pressurised into the field of radical and structural geography and into the expediency of contributing to the decision making process. Unfortunately, it has often been the case that Geographers have been ill-equipped to do this because their work was either based upon a micro-analytical study or on very vague generalisations whose inaccuracy reduced any value and ignored fundamental structural concepts. Canterbury is used to illustrate the problems and pressures of the fringe.

The research programme, therefore, has a number of aims. Although these have been indicated separately, they are not to be regarded as separate. Indeed, it would be not only an error to do so but almost impossible. They are all linked to produce a system of operation which as yet is not fully understood. Although representing a different approach, there is respect, as there should be, for the past. This is why within the introduction there is a section on the historical background to Canterbury. This is not a mere description of the growth of Canterbury but vital information if one is to understand its modern problems. It is further justified by the views of M. Chisholm (1975) who has indicated that much modern work lacks the description which is necessary in all scientific work.
The review of literature has been divided into four categories. This in part reflects the diversity of land use studies. The first section is concerned with the background of land use studies and the progression from Sir Dudley Stamp (1931) to R. Best (1980). The second section reviews the major articles concerned with the fringe and, although dated (e.g. Wehrwein, 1942), provides a useful beginning. The third section assesses briefly the role of planning and how many goals neglect the fringe as an important spatial phenomenon. The last section attempts to consider the sources for the study of Canterbury and the current material on the fringe.

The Growth of Land Use Studies

In any study concerned with land use it is not surprising that the starting point should be that of the late Sir Dudley Stamp. He is associated with the First Land Utilisation Survey of Britain in 1931. Begun in the 1930's, he devised classifications and methods of field recording. The important aim of the survey was to provide a document which could serve as a standard of comparison with former times and provide a basis for planning (Board, 1968). The importance of the survey was not merely the above but it broadened the approach of geographers and made them aware of the potential contribution that could be made in the field of planning and applied geography.

"For the geographer, the land use survey will still be one of the main links between the field laboratory, the map and explanations of human activities in relation to the physical environment."

(Board, 1968)

The concern that Stamp has for land use studies arose in the 1930's. He was appointed vice-chairman of The Scott Committee on Land Utilisation in 1941. The importance of the work of the Committee
should not be underestimated; it is through the acceptance of their recommendation that led to the first Town and Country Planning Act of 1947. The passing of it was the first official recognition that the concept of regional planning is a geographical one — that the skills of a trained geographer are required (Buchanan, 1968).

Because of and as a tribute to the work of Stamp a memorial volume in the form of a Special Publication (No.1, 1968) was published by the Institute of British Geographers. A study of this leaves one in little doubt of Stamp's contribution to land use studies.

"The weight of this contribution reflects the central importance of the land use theme, the rich variety of situations and problems which it subsumes — and perhaps the penchant of some geographers for field work."

(Birch, 1968)

The volume, Special Publication No. 1, is divided into three main parts — the man and his work, the land of Britain and the Developing World. Probably the most significant part for this study is the second of these chapters. It is interesting to note that two of the authors, J. Coppock (1962) and R. Best (1980), have made substantial contributions themselves and choose to write on themes which are still relevant today — "The Competition for Land between Rural and Urban Uses" (Best, 1968). The significance of the volume is that it is a tribute to the pioneer of land use studies — indeed, one might say the father of land use studies — it brings together the nationally recognised figures to make that tribute. It reveals that Stamp brought a new dimension to geography although at the time it was peripheral. Today, land use studies and applied geography are central themes in the subject.

The theme of land use, both its use and misuse, is taken up notably by G. Wibberley (1959), and A. Coleman in the 1960's. G. Wibberley (1959) in his book "Agriculture and Urban Growth" attempts to
consider some of the problems which have arisen from the mass competition for what is a scarce resource. He defines land as a very broad term and perhaps in a very different way from today.

"Land as defined for a purpose, constitutes the surface of the earth with all its natural and human attributes, the space directly above it, the climate that it enjoys and the subsurface with its mineral deposits."

(Wibberley 1959)

Within the book he sets out the need for land, the measurement of land uses and the national land use pattern. Although the figures are dated, they provide useful comparisons e.g. there are tables illustrating the changes in land use in England and Wales between 1900 and 1950. Another table "A Comparison of the Rates of Increase of Population and Urban Land" indicates the sharp rise in urban land use between 1920 – 1940. Thus it was not surprising that concern should be expressed about the loss of agricultural land to urban uses. Because of this loss Wibberley (1959) explores a theme which could be described as obtaining the maximum use from marginal land. The term which he uses is "New land – from the hills?" It seems that with calls for greater self-sufficiency in food that this still has a pertinent relevance. In the conclusion to the book he reinforces the need for land use data and how few countries have a suitable system. He voices concern at the growth of urban land and suggests that in 1900 urban land only represented five acres in every hundred but in 1950 it represented nearly ten acres in every hundred. There was also concern that it was the higher grades of land which were being taken. Whilst admitting that the poor data is a major barrier to good analysis he writes:

..."It is hoped that the picture of past and future land use changes in Britain is somewhat clearer as a result of our work and that the inter-relationships of town and country are reflected in a different way and somewhat sharper light."

(G.P. Wibberley, 1959)
The attempt to provide a greater degree of analysis which initially came from Stamp (1931) was then followed by A. Coleman in 1963 with the Second Land Utilisation Survey of Britain. The role of A. Coleman's work is well demonstrated in the article "Is Planning really necessary?" (1976). She acknowledges three achievements of Stamp - first the comprehensive documentation on the use of land; second, the accounts of misuse of land, and, third, the role that he played in helping to set up the practical machinery for land use planning.

Coleman's work was not simply one of remapping and recording. She wanted some reassessment of the Town and Country Planning Act of 1947 in order to see if it had produced a well ordered set of land uses. Her conclusions lead her to believe that environmental planning is necessary - that there should be concern for both people and the environment. Coleman (1976) drew attention to the growing amount of wasteland in the environment. A study in the Thames district indicated a 92% increase in wasteland (1976). Coleman claims that planners have not shown enough care regarding the management of land. In her conclusion, she first asks whether it is fair to hold planners responsible for the wasteland increases in the Thames area - her own answer is reasonably in the affirmative and she claims that this was one of the most important complaints of Stamp. Coleman states that wasteland is part of the classical problem of sprawl that diffuses urban pressure over a wide area, fragmenting the farmland, exposing it to trespass and so making areas uneconomic to work. Significantly, Coleman (1976) carried on to say:

"This mixture is rural-urban, or rurban fringe, which planning was intended to control and reduce."

(Coleman, 1976)

Perhaps the important point that Coleman points to is a new dimension in the spatial unit for planning - that of scape and fringe - and emphasising the role of the fringe area as an important part of
this. Coleman has written many articles concerned with the central theme of the misuse of land, for instance, in 1977 in the Architects Journal a controversial article to force people to realise what a serious condition the country was in because of the lack of an effective land use policy.

"The country is rapidly running out of productive land. Farmland is increasingly degenerating into waste, scrub and dereliction through urban pressures. Buildings are eating up valuable rural land, creating environmental subtopias and exacerbating the problems of inner cities." (Coleman, 1977)

The work of Coleman as a progression from Stamp through the Second Land Utilisation Survey is important but she has also made a distinctive contribution in focusing attention on the loss of land. The fringe - to her an irrational land use pattern - has not diminished despite planning, the scapes have not increased in their area. It is a fitting tribute that she has played an important role in the Land Decade Council. The Council was set up in 1977 to foster a better understanding and use of land (Moss, 1981). It showed that farmland should be protected and that, before further land is taken from the countryside, better use of existing land should take place. Farmscape is disappearing at an extremely fast rate. In 1963 farmscape accounted for two-thirds of the area of England and Wales but if loss of it continues at the same rate then it will have completely disappeared in the next 200 years (Coleman, 1980). The Land Decade Council is trying to suggest what areas of action might be taken to overcome the many difficulties and to look forward towards management of this vital resource.

The work of Coleman (1975-1977) prompted one of the greatest academic debates in geography. This was over the very fundamental issue of land loss to urban uses. Her work was challenged by R. Best who wrote of myth and reality in agricultural land loss (1978). It has more recently been published in "Land Use and Living Space" (1981)
which is a compilation of his work. It challenges the assumptions and conclusions of Coleman who, he suggests, uses emotive language such as "good agricultural land is being turned over to urban use ... at an increasing rate ... galloping consumption ..." (Coleman, 1977).

Best (1981) challenges this to such an extent that transfers from agricultural land to urban use has declined and this is particularly true since the mid-1970's. Best (1981) sets out the myths and reality of land use change. This is particularly concerned with the rate of urban sprawl and to put into context the nature of land loss.

"The deepening of the recession in the late 1970's has further restricted residential demand and house building, along with other types of development, and this resulted in 1978 in the lowest level of annual land loss of about 8000 ha. achieved in any year since the War." (Best, 1981)

Best (1978) maintains that all things are possible with present land resources if they are planned and used wisely. Sensible decision making is needed and with this there is no real land use problem in Britain - most of it being in the mind not on the ground.

The contentious issue of the loss of agricultural land has been at the heart of the academic debate on land use. The debate seems to highlight the problems of data sources. Coleman based her work on the Second Land Utilisation Survey actually mapping the land area. Best used the Agricultural census returns. From the use of such information they have disagreed. A sample of this debate can be found in "Urban Growth, Farmland Losses and Planning" edited by A.W. Rogers (1978).

The above has led to a re-questioning of some definitions in the use and nature of data collection. Quite clearly, using different data sources the results instead of showing some signs of agreement appear to be diametrically opposed.
One recent attempt to discuss the nature of land use has been that of G.C. Dickinson and M.G. Shaw (1977). The article is concerned with the question "What is land use?" They maintain that land use has received considerable attention since the 1968 and 1971 Town and Country Planning Acts and since local authorities have been required to make annual returns of land use change in their areas. Despite attempts to make a National Land Use Classification, the classification seems to be ambiguous.

"The basic question of precisely what land use means - not only is there no agreement, but there seems to be no internally consistent alternative definitions."

(Dickinson and Shaw, 1977)

Dickinson and Shaw state the need for a definition which includes activity as the principal component and a functional unit. The example of a public house which contains retailing, parking, recreational and residential activities can be cited. The significance is the recognition of the difficulty of land use definition and a proposal for an alternative form, albeit with difficulties.

A recent book on land use per se is that entitled "Land Use" by Rhind and Hudson (1980). They draw some of the issues together i.e. data collection, classification of land use regions, formal and functional, and, finally, with an attempt to demonstrate the importance of theoretical concepts to land use data. The authors draw attention to the way different political philosophies view land use patterns. This issue is clear - that land use remains a central political and practical issue in contemporary society and that there is a need for the resolution of conflict. This can only be achieved by sounder explanatory studies which underpin many existing land use models. The need for a variety of data is essential. This should include property ownership, planning restrictions and demographic characteristics if a deeper understanding of the determinants of land use structure is to be obtained (Rhind and Hudson, 1980).
Some background to the general land use debate has been described. It began with Stamp and followed on with the works of Coleman and Best. A link was made with the publications of Dickinson and Shaw (1977) and of Rhind and Hudson (1980) to complete the background.

**The Starting Point of Fringe Literature**

However, the review does not necessarily take account of the work particularly on the rural-urban fringe. Some consideration of the literature is required. One of the earliest articles written specifically on the rural-urban fringe was that by G.S. Wehrwein (1942). He attempted to identify the land use structure of the fringe and defined the rural-urban fringe - a definition still widely accepted today.

"The Rural-Urban Fringe may be defined as the area of transition between well recognized urban land uses and the area devoted to Agriculture."

(G.S. Wehrwein, 1942)

Wehrwein uses the work of Von Thunen's "Isolated State" (1826) as a starting point claiming that the daily contact of farmers with the city would imply different farming from that of their more rural counterparts. The next piece of work he considers is that of Christaller stating that each urban concentration will be the basis of a series of zones of land use and the larger cities will have fringe areas. The most important assumption is that the city itself will tend to follow these lines of communication. E. George and F.W. Woodward (1865) emphasized the significance of the railway in this context. Wehrwein (1942) claims the real force for decentralization was that of the car and individual transport.

"The rural-urban fringe then became penetrated by streaks of urban land uses also radiating from the centre like spokes of a wheel."

(Wehrwein, 1942)
The case study that Wehrwein considers is that of Indianapolis which demonstrates many of these points. In the conclusion Wehrwein recognizes the role of legal and institutional forces and notes how there was a practice to dump unwanted industries there. The work of Wehrwein is of great significance because it could be argued that this was the starting point for the study of the rural-urban fringe and that within the work it contains many pertinent points relevant today.

R.C. Golledge (1960) also wrote a very significant article on the rural-urban fringe relating to Sydney. He used the term, much quoted, of "a geographical no man's land." The article sets out the features of land use in the fringe and notes that the character and composition of the fringe result from the interaction of rural and urban influences on land use. The analysis considers the size of farms and demonstrates how there are smaller farms nearer the city as a result of higher costs. In terms of population density the fringe is low, but susceptible to change. An interesting point that Golledge makes is that planning could in fact remove the dynamic nature of the fringe and create a clearer division between town and country. He claims that there is a certain natural movement of the city's periphery and problems will arise if this is not allowed to continue.

J.A. Giggs (1970) has written on fringe expansion around Nottingham and he considers aspects of recent population growth and decentralization. From this information he notes specific types of suburban centres. Above all he demonstrates how villages are modified by their populations not least in their morphology. R.E. Pahl (1965) has shown how the villages in the metropolitan fringe both in Hertfordshire and in Kent have altered their sociological composition because of decentralisation and the urbanisation process.

The work of Golledge (1960) and Wehrwein (1942) provide the starting point for a study of the rural-urban fringe. There is some useful background material in Peet "The Spatial Expansion of Commercial Agriculture" (1969). This links with the theoretical work of Von
Thunen (1836). This has relevance for the study of the fringe but it tends to be applicable only where the primary force determining the pattern is the cost of transport to the market. Sinclair (1967) wrote of a different land use pattern - that agriculture is one of increasing intensity with distance from the city. The work of Sinclair is significant for the twentieth century as it includes forces not operating during the time of Von Thunen.

"It is felt that the theory can be applied to many contemporary conditions and hence provides a meaningful way of looking at agriculture around today's metropolitan centres."

(Sinclair, 1967)

The theoretical work of land use studies is provided by Harvey (1966), Found (1971), Chisholm (1975), Batty (1978) and Johnston (1983). The work of Found (1971) is a theoretical review of the nature of agricultural land use. Not only does it review traditional concepts but it is also distinctive because it includes the importance of perception and images to land use. Harvey (1965) writes that too many studies of agricultural land use patterns have been descriptive of unique areas. There is a vast scope for producing models for real world operation not least in the decision making process. Within his article Harvey (1965) reviews different types of model, ranging from those concerned with spatial distribution and inter-regional equilibrium to input/output models. The value lies in making one aware of the variety of models which are available. Chisholm (1975) provides an important background to the methodological issues in the subject. It focuses on the new approaches of relevance and yet at the same time asserts that, although techniques change, there is still an essential man and environment theme within the subject.

Johnston (1983) provides a clear analysis of methodological issues and particularly the need for structuralist approaches. This is important because as Johnston points out many explanations of observed phenomena have always left only a partial view. With this partial
explanation there is a danger of a weak decision making process because of failing to appreciate the real forces that operate.

The Role of Planning

One of the most important books in the field of planning is "The Containment of Urban England" Vols. 1 and 2 by Hall P. et al. (1973). The study is divided into two parts. The first concentrates on urban growth in England; it is in essence a documentary of what has happened. It identifies a possible megalopolis within England. The detail is considerable in providing a documentation of geographical changes in urban England from 1931 to 1966 mainly by the use of statistics. This is reinforced by detailed analysis in five study areas of the history of growth in London's urban fringe, South Hampshire, Birmingham and West Midlands, Leicester and North-West England. The second volume considers the nature of the planning system and of its objectives before giving a verdict on it. One of the most important points to emerge from the analysis is that it recognises that planning is a complex process of interaction between a number of parties. The study concludes with the notion that, despite changes in the mechanics of the planning system in 1968, the 1947 system with the same agents and often the same personalities still provides the basic framework.

The literature on planning is important because it gives some indication as to the priority which has been given to fringe areas. Apart from the earliest works by Howard (1902), Unwin and Parker (1912), Geddes (1915) and Abercrombie (1944) which formed the basis of Town and Country Planning, an important contribution is that of Mandelker (1961) in his "Green Belts and Urban Growth". It is concerned with the policy of green belts and its administration.

Within the framework Mandelker (1961) reviews the system of planning. He comes to the conclusion that in 1961 the system is far from perfect despite the good intentions.
"None would deny the boldness of post-war English planning legislation. In practice, however, the product has not lived up to its promise. Part of the problem lies in the planning process. Planning administrators, both national and local, muddle through".  
(Mandelker, 1961)

Less specific books on planning in green belts but valuable for the procedures of planning and the relationship between Structure and District Plans are by Freeman (1974), Roberts (1974) and the Town and Country Planning Association (1974). Perhaps one of the most pertinent books on planning is "Urban and Regional Planning" by Hall (1975). Not only is there an account of the development of planning but Hall (1975) considers case studies in Western Europe. A significant chapter is that of "Planning for Cities and City Regions". Here Hall recognises the need that for certain functional reasons a larger planning unit is required. The example cited specifically was that of transport and its consequent effects.

Gilg (1978) has attempted an evaluation of countryside planning; he maintains that it is only since 1945 that the countryside has been planned. The book covers topics such as agriculture, land use planning, forestry, water recreation and conservation. In the section on land use planning there is a useful outline of its development; the conclusion is drawn that it is fundamentally a political issue of how and at what rate resources should be used. The message is very clear. "If we do not like what is happening at the moment we can take action for if we want to be we can, and perhaps anyway should, all be countryside planners".  
(Gilg, 1978)

Pacione (1984) in "Rural Geography" has noted the changing status of rural geography which, after being central to human geography from 1945 up to 1970, has been relegated to an inferior position. This was because of the concentration on urban geography. By the 1980's, however, there was a growing return of interest so that pressure built
up to ensure the central position of rural geography once again. Furthermore, it is worthy of note that in the 1980's it has broadened its scope to include all aspects of accessibility, employment, housing and service provision; in consequence, rural geography is multifaceted. The book attempts to draw together developments in the subject and to show the great diversity from traditional patterns of settlement to aspects of settlement planning, resource exploitation and management.

All these works reflect the results of urban growth and put in context the problems of the fringe area.

Johnson (1974) was one of the first to make specific references to the processes operating at the periphery of the city. He acknowledges that too much work has been concentrated on a single centred city. There is a need for a change because:

"Studies of contemporary suburban growth may give an insight into the process likely to operate in the future elsewhere in the City". (Johnson, 1974)

In a chapter on current processes he considers the work of Golledge (1960) and the problems of the fringe. He acknowledges that inevitably there will be a competitive atmosphere in which conflicts arise. The problems he identifies include those of scattered and piecemeal development, of the wide range of problems resulting from the intermixture of land, from reserving land for agriculture, from the provision of recreational land and from the difficulties which stem from the high costs of services to scattered settlements. Johnson (1974) states that there has been much concentration on the preventive measures rather than on the stimulation of techniques to improve the fringe.

"The mechanisms at work within the urban fringe are so intricate that it is perhaps unrealistic, with the planning tools at present available, to expect more than a modest readjustment of the
considerable forces of urban expansion". 

(Johnson, 1974)

Slater (1984) has shown how the effects of history can determine the nature of planning. It traces the effectiveness of planning policies in two towns - Stratford and Warwick.

"The historic town plan of Stratford-upon-Avon is based almost entirely upon the decisions taken in about 1196 by the Bishop of Worcester...."

(Slater, 1984)

The article considers some of the techniques of town plan analysis such as fringe belts; it states that the Conzenian tradition provides a yardstick by which earlier policies can be assessed.

The size of the planning unit was very important and the data on Canterbury mostly referred to the immediate City. The growth and development of Canterbury is described in Church (1948) and Jessup (1974). These are historical accounts of the City. The current information comes mainly from planning documents such as the Canterbury District Plan Report of Survey (1979), Canterbury City District Plan (1982), Choices and Strategy (1981) and Canterbury Transportation Study (1976 and 1979). The wider County issues were identified in the County Structure Plan (1980), Kent Countryside Plan (1982) and the Stour Valley Plan (1980). However, much of the information was not easily available and some collection of data was necessary particularly in terms of land use and it was desirable to consult specialist organisations such as the Ministry of Agriculture, Fisheries and Food who had produced an A.D.A.S. report (Tech. Report 30, 1973) on aspects of the fringe in Slough and Hillingdon. This seems to be the only piece of work undertaken on assessing the amount of trespass damage.

Farming on the fringe and its problems are described by Munton (1974) and by Davidson and Wibberley (1977). Bowler (1981) has shown
how accessibility has been of key importance in what he has termed direct marketing i.e. pick your own. This is based upon the major trends in society such as widespread car ownership, possession of deep freezers and increased leisure time. The spatial distribution of such development is shown to be concentrated in the South East and the Midlands.

Bull and Wibberley (1977) have also demonstrated some of the advantages of fringe farming in what is termed farm based recreation e.g. caravans, fishing and shooting. Much of the other information has been gained from personal visits to the M.A.A.F. offices and to the offices of the Public utilities.

From the review of the main sources of literature there emerges one dominant theme. There is a lack of specific information which relates to the fringe areas. Many of the books mention the fringe but few discuss it in detail. This is surprising because there are plenty of sources on land use and the most recent publications (Rhind and Hudson, 1980) and Best (1981) add to this. It can be explained partly by the failure to recognise the fringe as the most important area and to consider the fringe as a whole and because the fringe has failed to be politically as emotive as the inner city. However, there are signs that change is taking place.

Muller P.D. (1982) considers the nature and evolution of American suburbs partly because it has not been covered in depth in class studies text books in the United States. He organizes the book into the Outer City, the Organization of the Suburb and the New Role of the Suburbs. He recognises the forces of growth of suburbs as being:

(i) the steady decentralisation of all but the lowest income groups
(ii) the concentration of new housing in the periphery
(iii) the spatial differentiation of the population - often by income
(iv) the continued immigration of the rural poor to the central cities

In addition, the decentralization of retailing in the United States has been very marked and an interesting comparison is made with the more modest but growing phenomena in the U.K.

The work is fundamental to understanding suburban processes in the United States and it throws light on some of the problems in British cities. The role of the central city in the U.S.A. has been changed beyond recognition and there may be a danger that this is happening here - a development that should be avoided because the inevitable situation according to Muller (1982) is that large cities are not playing a leading role in urban America.

Recent material relating to the Fringe

The growing importance of literature on the fringe is emerging as urban geography as a whole has become a major focus of research in human geography. This is exemplified by Pacione (1981) in themes in "Progress in Urban Geography" namely Housing, Employment, Crime and Delinquency, Ethnicity, Urban Government, Transport, Service Provision and Pollution. Above all, it recognizes the need to switch from problem definition to one of possible solution.

Carter (1981) in the Study of Urban Geography contains a useful introduction to the rural-urban fringe. He acknowledges that it is an area of distinctive characteristics and that it can be considered in three different ways - as a physical area, the area where urbanisation impinges on rurality and the impact of urban expansion on agricultural land. The chapter (Chapter 12) then briefly considers the fringe under these three themes. Carter through the work of Pahl (1965) mentions the social structure of the fringe areas - an added dimension to one of simple land use. The importance of the fringe area is demonstrated and Carter (1981) states that the real transition zone of the city is the fringe.
Goddard (1981) has stated that the movement of people out of the city has transformed the nature of the urban system not least during the 1960's and 1970's. Goddard states that the period of the 1960's and 1970's was a period of unprecedented change, particularly in the employment base of the economy. These social and economic changes manifest themselves in the cities. One of these changes has been the development in the periphery of towns so the dominant pattern has been one of population and then employment decentralisation. One of the few activities which could be identified as having grown in the city centre is that connected with offices. The significance of the work of Goddard (1981) is that it links the development of towns and cities with the structural changes within the economy itself hence the effects of decentralisation are crucial to the understanding of the evolution of the city.

"The problem is therefore not simply one of the inner areas but of the overall decline of the major cities that still dominate the British urban system.

(Goddard J.B. 1981)

K.O'Connor (1980) has also recognised the importance of the journey to work. Its significance is that this daily movement provides much geographical interest into the nature of settlements on various scales. The work analyses the data sources available mainly from population census. O'Connor (1980) uses the data to show that a city has a greater influence over the areas than simply the built environment. The process of urbanisation disregards administrative borders. The journey to work data can also demonstrate the changes in urban spatial organisation - the trend that the time to travel to work has tended to increase. However, these are dangers of oversimplification to be wary of simply assuming relationships between the increasing journey to work and transport technology.

The main point that O'Connor makes is that the analysis of journey to work patterns is more than just the daily pattern of movement - they
can help to elucidate complex social and economic forces that operate in residential and job location. It is for that reason such an analysis remains an important part of modern human geography.

Goddard and Champion (1983) attempt to look at the fundamental aspects of change since the 1930's. It recognises the structural change in the economy of the U.K. by looking at regional changes in manufacturing, the distribution of service employment and processes such as the decentralisation of population and employment. The work attempts an analysis of these strands because it argues that spatial trends are remarkably persistent over long periods of time.

The nature of structural change and its policy have been documented by Frost and Spence. (1981). They acknowledge that the urban and regional policies have been set in a context of considerable change in both population and employment. In the face of increasing unemployment the two choices of policy are set out - either to stimulate demand for labour or retraining the supply of it. Every government since 1945 has attempted a blend of these two approaches. Frost and Spence (1981), however, argue the need for a radical rethink to use all regions to the maximum to produce the overall product - a rise in national employment prospects. The former subsidies to development areas will not be enough.

P. Knox (1982) in writing about Urban Social Geography reminds those studying the urban environment of the importance of the social dimensions in recognising the spatial differentiation of the city. However, this is undertaken in the content of an appreciation of the evolution of the city hence an introduction to historical perspectives of it. Knox also notes the importance of planning and agrees with Glass (1968) that cities are a mirror of history, class structure and culture. This means that from the built environment something of the processes operating in the city may be understood. In terms of material directly related to the fringe Knox discusses the contributions of Conzen (1960) and Whitehand (1967, 1972 and 1974) and
how they explain the broad pattern of urban development. There is an
acknowledgement that Whitehand (1974) is correct in the relationship
between residential and non-residential development within fringe areas
by showing that institutional forces are all important until economic
boom periods when house building outbids institutional users. Thus,
the work of Knox which covers many aspects is a very valuable survey of
current trends in urban social geography.

The importance of economic and social trends in the city is also
shown in "The Good City" (1980). The book is divided into two main
parts, the first with setting the background with early development of
Town Planning maintaining that Town and Country Planning is the story
of a loosely knit alliance finally breaking up in the 1980's. Since
the 1960's urban development has entered a turbulent period which has
posed problems for all concerned in the urban environment. Through the
book there is the theme that the built environment is more than just
buildings but it is about people and also for a demand for a fairer and
more equal society. This would inevitably have consequences in a
spatial context.

The second part of the book asks fundamental questions such as
what is the nature of the distribution of employment opportunities, are
people unemployed? There is a consideration of the type of people to
be studied particularly the vulnerable groups of society. Donnison and
Soto (1980) acknowledge the spatial scale is of key importance -
whether it is a neighbourhood, a region a city or a county. The
emphasis of the second part is on the nature of the labour market and
the economic and social trends are inextricably linked but ask the
question of what kind of town for what type of society? There is also
a recognition that different towns have different social and economic
characteristics. The task of the planner is constantly to compare
their proposals with the public's wishes, but they must look to the
future as well and this can only be done by due reference to social
movements of the people they serve.
Dennis and Clout (1980) have also written on the nature of social geography stating there has been little agreement on the definition but clearly social geography has become more relevant and social geographers more politically aware. Dennis and Clout (1980) recognise that the urban fringe is a dynamic region with social groups entering and making fundamental spatial changes. The writers also acknowledge the difficulties of definition and the fact that there is no widespread agreement on the outer limit of the extended fringe. There are four important processes which have been identified in social change—namely, immigration, commuting, segregation and the collapse of geographical and social hierarchies. The nature of migrants varies greatly from professionals to relatively poor commuters. Dennis and Clout (1980) study these groups in detail drawing on the work of Pahl (1970) and Thornes (1968). The importance of detailed case studies cannot be over-emphasised as each new case study adds to the understanding of the processes involved. Other processes operating include the hobby farmers who have not been studied in great depth in England. There is evidence that the South East has a large number of businessmen who have invested in land and evidence of part-time holdings is shown by the work of Gasson (1966 and 1967).

Another social group has been that of retirees who choose small towns and villages; they are searching for a sense of community but they may find that if the settlement is too small that as they grow infirm the facilities are not available. The nature of processes beyond the fringe are obviously going to be important for the fringe itself. Quite clearly, the fringe cannot be seen in isolation from the urban area nor from areas beyond it.

In Urban Change and Conflict (1982) the importance of contemporary urban studies is shown; different approaches are indicated. The book is divided into sections on perspectives on urban studies, pattern and processes of urban change, social processes, the limitations of planning and public policy and state intervention. It is a valuable collection of readings on present day urban topics.
Specific work on fringe literature is brought together by Phillips J.C. and Veal (1979). It was a collection of research interests, assembled by the Countryside Commission, of those involved with the urban fringe. Discussion sessions were held and the papers are synopses of current urban fringe projects. It comprises such topics as agriculture and the fringe, the urban fringe land market and development pressures, recreation in the urban fringe, land use relationships and conflicts, the interaction between policies in the fringe and, finally, areas of possible research. This document is very important for all concerned with the fringe because it is almost the only list of workers in fringe research and it identifies the fact that this area has much to offer potential researchers.

Practical attempts at analysing land use have been produced by Coleman A.M. and Catling S. (1982) for the Geographical Association in a series "Patterns on the Map". This is a series, produced for teachers, about the analysis of land use maps of the Second Land Utilisation Survey. It acknowledges the difficulties involved in analysis and how techniques need to be fully explained if it is to be undertaken in an efficient manner. It describes techniques from point sampling to the more involved scape and fringe analysis. It is an invaluable guide to the understanding of the spatial patterns of land uses. For a more comprehensive explanation of the techniques of land use mapping there is "The Comparative Statics Approach to British Land Use Trends" (Coleman, Isbell and Sinclair, 1974).

Whitehand J. (1981) has provided valuable approaches to the study of urban areas and extending the ideas of Conzen (1960). The significance for the fringe is that it discusses the nature of the fringe belt concept and fixation lines. Fringe belts were recognised by Conzen (1960) in his original work in Alnwick and he closely linked their development with economic fluctuations within the country as a whole. The identification of fringe belts leads to the study of the effects in these areas when urban development encompasses them. The importance of the fringe belt concept should not be underestimated.
because it could provide both a morphological and a functional study of the town plan, the building plan, building and land uses. In the past these elements have been studied in isolation.

Harrison C. (1983) has demonstrated how the fringe can meet some societies' demands for recreation. It states how authorities, such as the Countryside Review Committee and the D.O.E. (1975), have called for new recreational initiatives and interest in the fringe. The study was carried out in the southern sectors of the Green Belt and a survey was conducted on the ground to obtain information about characteristics of users and functions of catchment sites. The importance of the work is that it demonstrates the need for data before assumptions can be made.

"Some of the traditional assumptions that have been in arguments for an increased recreational role for urban fringe areas such as the Green Belt (Elson 1979) need to be reassessed".

(Harrison, 1983)

The conclusion was that the green belt was not providing the recreational needs of the inner city people partly as a result of the lack of transport. Secondly, the sites in the green belt do not provide an interception point before reaching the countryside.

"It serves rather as a zone of multiple recreational functions within which the visitor can enjoy a variety of "countryside recreational experience".

(Harrison, 1983)

The study of Canterbury emphasises the need for a functional approach and the Centre for Urban and Regional Development Studies (C.U.R.D.S.) has been using the 1981 Population Census data to aggregate all types of information, including demographic, economic and social, to produce spatial units (1984). Perhaps the most significant contribution is that C.U.R.D.S. have produced a classification of British Cities; Canterbury has been classified as one of the 'Urban
Southern Towns' which include in their populations a high proportion of professional employees in service, distribution and government. The importance is that CURDS functional regions provide a consistently defined set of city and city regions.

Probably for the first time a specific book has been devoted to the fringe. It is "The City's Countryside" by Bryant, Russwurm and McLellan (1982). Further emphasis is given in "The Outer City" by Herington (1984).

The former points out that the fringe is one of the most critical areas for society because it has both agricultural and aggregate resources; above all, it has the main bulk of developable land needed to support the expanding urban population. The book has been written in three sections - the structure and problems of the city's countryside, the activities within it and land management in the city. The weakness for British readers is that many of the examples cited are from a North American context. In the chapters on activities in the fringe the main processes are identified viz. land ownership, agriculture, industry, recreation and infrastructure. These are accounts of what the contribution and possibilities are within the fringe areas. Perhaps more significantly, the last section is concerned with management; it sets out the need not only for management of land use but also for a concern with all aspects.

"The emphasis has been on land use, much too narrow a perspective when we are effectively dealing with businessmen and people"

(Bryant, Russwurm and McLellan, 1982)

The book does provide a vital guide to the study of the fringe area and its significance is enhanced because it is one of only a few that deal exclusively with the fringe.

The "Outer City" by Herington (1984) is a work of importance because he rightly maintains that forces have continued to operate on
the declining inner cities and remote rural areas. He is of the opinion that these areas under pressure of urban growth have been given scant attention. Three fundamental questions are posed: (i) what are the reasons for the growth of outer cities? (ii) what are the problems facing the authorities in these areas? (iii) how effective is the planning system regarding city urban growth? The need to consider these important questions is essential for an understanding of the nature of urban growth.

"The social costs for the inner cities have only just been counted. Outer area problems are no less acute; possibly they are even more fundamental in the long term."

(Herinton, 1984)

Herinton (1984) notes how centrifugal forces have operated. This particular phenomenon is known as counter-urbanisation. The implication of this process is that growth has taken place in rural areas and on the margins of cities. What has become clearer is that this dispersal process has been affected by government policy. Investment has encouraged development in the outer regions giving, among other things residential choice to the more affluent. Quite clearly the effects of growth on the periphery of the city are most marked. Herinton (1984) highlighted the need for a national debate on urban policy.

"The choice is between continuing to disperse population and employment into the outer areas and regenerating our cities. This dilemma raises fundamental questions about the purposes of planning and the strategies for managing urban change."

(Herinton 1984)
The containment of population and employment is likely to require a stronger and more consistent national approach. It means deciding the goals of a society and making the necessary adjustments in both a sectoral and a spatial sense. Whilst this is true at a national level, one also has to acknowledge the importance of the local level and the local political process. It seems that a clear national and holistic planning policy is required, because the policies are needed to meet the new challenges generated by the outer city.

Conclusion

There can, however, really be only one conclusion to a review of literature concerned with the rural-urban fringe. Despite much literature on the land use debate concerned with the rate of loss of agricultural land to the built environment for urban uses, the material dealing with urban fringe uses is sparse. Symptomatic of this is that the starting point is still with articles by Wehrwein (1942) and Golledge (1960). These provide an initial introduction only so a greater in depth study is now required for the 1980's. There do seem to be some encouraging signs in Bryant, Russwurm and McLellan (1982) and Herington (1984). Without this further analysis the aim of good management will not be achieved.
## Table 1

<table>
<thead>
<tr>
<th>Period of Time</th>
<th>Main Processes Operating</th>
<th>Effects on Land Use Within the Fringe</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Roman</strong>&lt;br&gt;55 BC-450 AD</td>
<td>Religious&lt;br&gt;The Building of the Wall</td>
<td>Burial Ground Outside the Wall&lt;br&gt;Beginnings of Road Patterns</td>
</tr>
<tr>
<td><strong>500–1050 AD</strong></td>
<td>Economic&lt;br&gt;Religious Orders&lt;br&gt;Economic Strengthening</td>
<td>Growth of Markets&lt;br&gt;Communications Augmented&lt;br&gt;Road System Outside the Walls&lt;br&gt;Religious Orders in the Fringe&lt;br&gt;Pilgrims to the City</td>
</tr>
<tr>
<td><strong>1050–1600 AD</strong></td>
<td>Religious&lt;br&gt;Economic – Specialist Markets</td>
<td>Religious Houses fall into disuse</td>
</tr>
<tr>
<td><strong>1600–1800</strong></td>
<td>Decline of the Church&lt;br&gt;Economic</td>
<td></td>
</tr>
<tr>
<td><strong>Pre-Railway Age</strong>&lt;br&gt;1800 - 1900</td>
<td>Population Increase&lt;br&gt;Social&lt;br&gt;Economic</td>
<td>Growth of Housing Services begin to appear in Fringe Areas&lt;br&gt;Growth of Transportation Routes</td>
</tr>
<tr>
<td><strong>1908 -</strong></td>
<td>Economic&lt;br&gt;Social&lt;br&gt;Further Population Growth</td>
<td>Railways becoming very important&lt;br&gt;Increase in Services and Residential Areas</td>
</tr>
<tr>
<td>The 20th&lt;br&gt;to 1950</td>
<td>A Distribution Centre&lt;br&gt;Economic Political -</td>
<td>Increasing Land for Services and Residential Areas</td>
</tr>
</tbody>
</table>
D. Historical Processes in Canterbury

By its very nature History is acknowledged as one of the factors invariably influencing the evolution of a city, to what extent is frequently a matter of debate. In the last forty years the dominant factor has often been that of planning by both central and local government. Although, superficially, these two factors may appear to be unconnected, in reality this may not be the case; certainly for Canterbury it is the historical background which has influenced many of the fundamental planning decisions. The pertinent point is that there would seem to be processes which have operated through time and have varied only in degree to produce a spatial pattern, it is hoped to demonstrate this. Some of these processes and their resultant effect are indicated by Table 1 of Historical Aspects of the fringe of Canterbury.

Initially, in the pre-Roman period the settlement which became Canterbury was the most easterly feasible crossing point on the river Stour. The proximity of the Continent made it a centre of migration flows to the north and west. Transportation is the most obvious process which stems from the choice of site and operates in all directions. This process is clearly marked as early as the Roman period - building the road links to London and to the coastal forts. Thus, the foundation of the East Kent network was created with access roads to and through the fringe provided in the course of the operation. Transport was further developed significantly in the period 1050 - 1600 by the growth of roads between hamlets and farmsteads as distinct from the main links described and the town streets.

It would be fair to comment that the mediaeval city walls, originally Roman, created the first fixation line within which the historic City developed. The second was the pattern of railways constructed in the 19th century; this was a sub-regional centre of the flow of goods and people. The effect of the railways on land use was the fragmentation into areas and the provision of barriers to
development. Both fixation lines still influence the structure of the City today. The most prominent of the 20th century fixation lines is the new By-pass on the southern side of Canterbury to cope with the vastly increased London - Dover passenger and freight traffic. This illustrates the role of transport through the centuries as a key process, it also enables the processes of an advancing boundary of the built-up area, i.e. proliferating fringe, and a stationary boundary, i.e. static fringe, to be identified.

Almost a unique feature of Canterbury has been the degree of the influence of religion. No other city can boast of the Primacy of all England. Before that, however, one can see the religious custom of the Romans burying the dead outside the city walls and using what would e called fringe land in so doing. Indeed, the tracing of the location of cemeteries is often a useful guide to the identification of cities' fringe belts both past and present.

Consequent upon St. Augustine's mission in 597 A.D., the two most important events were, firstly, the building of the Cathedral and the Abbey and, secondly, the murder of Thomas a Becket in 1170. To the role of ecclesiastical, administrative and training centre was added that of being a focus for pilgrimage. One result was the growth in the number of religious houses some of which were outside the city walls in what could be called at the time the fringe i.e. St John's Hospital. The mediaeval heritage which was created provided the attraction for the modern tourist who numbered approximately 1 million in 1975 (City of Canterbury Tourist Study), a figure which is estimated at nearly double today as a consequence of greater travel whether cross-Channel or otherwise. The generation of traffic through the fringe whether it be the ancient Pilgrims Way or the dualled trunk roads is an obvious effect. For the City itself the pressure on Coach/Car Parks takes up land and so diverts pressures for other purposes elsewhere. Economically, a retail boost of £5 million (14% of the total) in 1975 it was suggested had been given by tourists and 2500 people (10%) employed as a result of tourism. This contribution to economic life
would have a general effect on expansion of the built-up area into the fringe.

A process which links with the religious houses was the development of education from the historic King's School to the modern Christchurch College of Education and the University of Kent. It will be shown in detail that educational establishments of all types with demands for space have a major impact on land use in the fringe. To go with its extensive nature it will also be shown that, equally important, there is the creation of a conservative element to discourage development in the face of pressures for change.

Population increase has been a major factor in the urban growth of Canterbury. Even as early as 1200 there are signs of ribbon development partly as a result of this. But growth can be illustrated more definitely by the following population figures:--

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1834</td>
<td>15,240</td>
</tr>
<tr>
<td>1852</td>
<td>19,000</td>
</tr>
<tr>
<td>1922</td>
<td>23,000</td>
</tr>
<tr>
<td>1971</td>
<td>33,100</td>
</tr>
</tbody>
</table>

This is largely a reflection of national demographic trends but, when applied at the local level, the effect is an expansion of settlement outside the walls although a very limited one until the 19th century housing growth can be found expanding the boundary of the built-up area in every direction except the Stour Valley flood plain. For the first time there can be identified an area differentiation of housing e.g. between the late Victorian/Edwardian villas in the New Dover Road and the terrace housing of Wincheap or the Sturry Road. This differentiation is continued in the estates of the 20th century. The importance of housing is that it takes up land whatever the century and is one of the biggest users of it.

A common feature of the urban environment at any time in history is the exchange of goods; market towns grow as a result of this interchange between town and country. Canterbury is no exception to
this process which is illustrated by the activities of milling, brewing
and tanning, thus emphasising the sub-regional role of the City. In
the 20th century this has developed into one of providing services,
especially retailing. This has a link with the past because just as
markets at Wincheap and Rithercheap were held outside the walls so in
the 20th century 'out of town' shopping has become for the planner a
major factor in the fringe. Moreover, a need for warehousing and
industrial parks has resulted, both using fringe areas.

Another important feature in terms of land use had been the amount
of land held by the Ministry of Defence and its predecessors. The
needs of defence stem from the City's situation. Remains of
installations can be traced from the Romans through the ages. It was
during Napoleonic times that the barracks were built and then in the
course of the next 100 years to 1939 greatly extended for the use of
various arms. A considerable training area was provided so that a
whole segment of the City's fringe from the Sandwich Road to the Sturry
Road was eventually occupied by the military.

A significant event in the development of the City was the 1942
'Baedeker' raid by German bombers. Nearly a third of the buildings
within the walls was devastated. The results were far reaching - a fresh
start with modern planning and the enhanced esteem in which the
remaining buildings were held. This led to strong conservation
policies creating, or much reinforcing, a centrifugal process i.e.
relocating industry and meeting the population needs in or near the
fringe. Up until this time most forces could be deemed to be
centripetal by focusing on the central city, the market town and the
religious shrine, all reached along the already defined transport
routes.

Modern urban growth can be identified from the the mid-19th
century but it is most marked at the beginning of the twentieth
century. The map of 1908 (Map 2) indicates clearly the resultant land
uses in the fringe. The processes are now summarised.
Site/situation. This is emphasised by the London, Dover and Continental trunk route and the radiating roads to adjacent towns. The quality of much of the surrounding land contributes to the local pattern. Development is directional along inter-urban links.

Transport (Rail) A number of railways cut the fringe - to London, to Dover, to Ashford, to Thanet and to Folkestone. These not only take up land but produce fixation lines to which land use adjusts itself.

Religious Influence The results can be seen in the dominance of the Cathedral, St Augustine's Abbey and the number of Churches.

Services There can be seen the Educational establishments, the Hospitals, Electric Light Works, Swimming Pool, Cemetery, Prison and Sanitation Works. In some cases there is duplication due to administrative boundaries.

Population Change Ribbon development at Thanington and Sturry begin to be seen clearly; following from this there can be deduced the potential of growth between the North-Eastern and South-Western sectors of the town. This development is still just linear, stimulated more by availability of land rather than transport.

Industry For the most part heavy industry is absent but some evidence of services are provided e.g. Agricultural Hall, Breweries and Mills. Despite these changes, however, the 1908 map shows that Agriculture continues to be dominant in the south of the built environment for there are what appear to be large farms at Ridlands, Stuppington Hall and Merton. This brief exercise of examining this map demonstrates the link between past and present. Agriculture itself, for instance, was beginning to adapt to urban growth - no less than 4 nurseries are marked thus indicating how fringe agriculture changed to a degree by 1908 to grasp the opportunities available.

It is difficult to assess in quantitative form the importance of
history on the nature of present day settlement but the processes identified with Canterbury all have a historical background. There are changes in degree e.g. transport certainly operates within a much larger functional unit than in the past. Pressures on the urban environment are much greater than they ever were because of the scale and speed of change. As a result the fringe must be a vulnerable area and the central City a conservation one with little space for development. The demands of the City as a reflection of society are ever increasing and this will eventually demand land from the fringe, but in order to understand why one must have an understanding of processes in the past.

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CHAPTER 2

PROCESSES AND PROBLEMS OF FRINGE FORMATION

AGRICULTURE

In studying agriculture as a process within Land Use Change it is virtually impossible to separate it from other factors. Often the loss of agricultural land is a result of a number of decisions and a change of use occurs simply due to demand for an alternative one. Thus, agriculture needs to be considered not in isolation from the urban environment but as a part of it.

A further problem has been the rather simplistic attitudes to agriculture. It has been assumed, too often, that agriculture has had an inherent conservation ethic for the assumption is that agriculture has been automatically protected against urban expansion which is deemed an undesirable phenomenon. But it must also be recognised that agriculture has undergone a fundamental change in the relationship it has with the economy and, indeed, with the development of the country. After the agricultural revolution there were improving methods and techniques which meant that agriculture was gaining land from marginal areas such as forests and uplands. Today, it is agriculture which is the chief supplier of land for urban uses. The changes were not marked until the 1st World War and later - the growth of transport, the Garden City and the demand for the emphasis to be on low densities and space.

It is worth noting that for Canterbury the encroachment on agricultural land has come mainly from Housing and not from Industrial uses. The loss of agricultural land (Table 2) can be closely tied to house building which in turn is linked to the general economic condition of the country.
### Table 2

**Annual Average Net Transfers of Farmland to Urban Use**

<table>
<thead>
<tr>
<th>Period</th>
<th>England &amp; Wales '000 ha</th>
<th>Scotland '000 ha</th>
<th>Britain '000 ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1922-26</td>
<td>9.1</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>1926-31</td>
<td>21.1</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>1931-36</td>
<td>25.1</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>1936-39</td>
<td>25.1</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>1939-45</td>
<td>5.3</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>1945-50</td>
<td>17.5</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>1950-55</td>
<td>15.5</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>1955-60</td>
<td>14.0</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>1960-65</td>
<td>15.3</td>
<td>2.5</td>
<td>17.8</td>
</tr>
<tr>
<td>1965-70</td>
<td>16.8</td>
<td>2.8</td>
<td>19.6</td>
</tr>
<tr>
<td>1970-74</td>
<td>14.9*</td>
<td>2.0</td>
<td>17.4</td>
</tr>
<tr>
<td>1974-79</td>
<td>10.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*This average refers to 1970-75

R. Best (1981 updated)

Nationally, the change in social taste for lower density housing meant that, although houses did not necessarily become larger, the plots of land in which they were sited did. By the late 1920's some 20,000 ha. p.a. were being lost to the urban area.

With the outbreak of the War in 1939 there was an abrupt end to this increase in land loss for urban development. The housing programme was severely curtailed. Indeed, agriculture received a boost because the need to produce more food was paramount. During the period 1945-50
some land used for military purposes was returned to agriculture. At the same time urban demands on land grew as there was a pressing need to make good the war years. The loss of land increased to 20,000 ha. p.a. but, finally, financial constraints began to apply as well as the increasing impact of planning legislation. In the regional figures the loss for the South-East from 1962 to 1967 was calculated at 0.1%.

The point which needs to be stressed is that the significance of agricultural land loss and even the rate can both be debatable. What is clear is that evidence does not support the claim that urban expansion is swallowing up greater amounts of land each year. The evidence is as follows:-

(a) The urban area accounts for only a small percentage of the total land use (8% U.K.).
(b) The highest rates of agricultural land loss were in the 1930's when some 25,000 ha. p.a. were being lost (see Table 2).
(c) Urban growth rates have, if anything, declined, partly due to a return to higher densities and to the influence of planning.
(d) In 1978 the total of agricultural land loss was some 8,000 ha. only.

The questions that can be asked on the above basis is whether this apparent success means that one can afford to be complacent? What does it mean for Canterbury? Are there variations at a local level?

To suggest that Land Use planning is an overwhelming success and that agricultural land loss is of little concern is both dangerous and foolhardy. One does not wish to take away the very great successes that Land Use planning has had but at the same time the amounts and significance of land loss need further investigation.

The figure of 8,000 ha. gives no indication of the quality of land which has been lost. There are some indications that a greater proportion of Grades I and II have been lost than III and IV.
Diagram 2. A METHODOLOGY FOR A STUDY OF AGRICULTURE.

THE SPATIAL PATTERN OF EXISTING AGRICULTURAL LAND USE

A STUDY OF AGRICULTURE IN THE FRINGE

PERCEPTION OF FARMERS

THEORETICAL BASE OF AGRICULTURE

PROBLEMS OF FRINGE FARMING
Significantly, 8,000 ha. is a national figure with the difficulties that implies but it cannot be very meaningful to a local planning authority. Each area is going to have a unique problem and land use decisions are for the most part taken at local level - the cumulative result is national. It is against this background that a study of agriculture is made with particular emphasis on spatial patterns of existing agricultural land, the perceptions of the farmer and a theoretical base (See Diagram 2).

A study of the map for agricultural land quality (map 3) could give the impression that the topic of agriculture is a very simple one. The fact is that much of the land east and south of the City contains large areas of Grade I and Grade II calibre. Furthermore, the policy of the Kent Structure Plan C.C.1 is clear:

"Development which will cause a loss of productive or potentially productive agricultural land or reduce the viability of farm holdings will not be permitted, unless it can be demonstrated that the need for the development overrides agricultural considerations and no alternative site on non-agricultural land is available."

"Policy C.C.1 will be applied with particular force in respect to Grade I and II land."(Kent Structure Plan, 1980)

The above seems to be clear but a new road (the Canterbury By-Pass) now cuts across Grade I and II land (see Photograph No. 3) no further investigation is needed. The Planning document (Canterbury City District Plan Survey, 1979) begins its section on farming as follows:

"Farming is pursued up to the very edge of Canterbury and there is little evidence of it having been abandoned in advance of urban development."

That seems to be somewhat of a subjective evaluation and in places
Agricultural Land Quality

- Grade I & II
- Grade III
- Grade IV
- Open land not in agricultural use

such as the Sturry Road not very accurate. Certainly, detailed analysis shows that individual fields have been taken for development.

The Spatial Pattern

The south and east beyond the City is within the Draft Area of Special Significance for Agriculture. The City Council has to help determine the precise boundaries of the designation near the City.

The southern area is of Grade II quality and used for fruit and hop growing - the farms tend to be large, viable and well equipped.

In the east the soils are loams which have a high fertility and form some of the finest soils in Kent i.e. Grade I. Within this region the M.A.F.F. state that it is imperative that this area remains in agriculture. (Summary Report of Survey District Plan, 1979)

Between the Littlebourne and Stodmarsh Road the land is classified as Grade II but here units tend to be fragmented. Within the eastern margin is a wedge of M.O.D. property which was a training area but is let on a grazing tenure - it is not very productive.

To the north of the City the land rises towards Harbledown and it is a mixture of sands and clays. The land is of poorer quality i.e. about III and IV grade.

To the west is a wedge which contains gravel and is the flood plain of the Stour. It is used little for both agricultural and urban development but it has potential for extraction of sand and gravel.

In summary, the City is surrounded by good agricultural land, it is of particularly fine quality in the south. What is significant is that in the final District Plan agriculture does not seem to feature very greatly - yet the implications which follow from acceptance of this pattern are far reaching i.e. no development in the south.
Diagram 3.

THE LOSS OF AGRICULTURAL LAND

DEMAND FOR NEW LAND

SELECTION OF SITE

SITE CHARACTERISTICS

RUNNING DOWN OF AGRICULTURE

SMALL AREA

FRAGMENTATION

SURROUNDED BY AT LEAST 2 SIDES OF URBAN DEV.

ACCESSIBILITY

LOSS OF AGRICULTURAL LAND
Issues of Agriculture within the fringe of Canterbury

Agriculture within the fringe of Canterbury has two main aspects to consider. In a direct sense there is no danger up till now of agriculture being swallowed up by an urban environment ever increasing outwards. The planning system ensures that. There is, too, a genuine desire of the planning authority to regard the M.A.F.F. point of view sympathetically. The question is whether in fact this makes the theoretical base of bid - rent curves acting and reflecting market forces as anachronistic. This, however, does not appear to be the case because, although in a direct sense land use cannot change into urban use without planning consent, there can be a decline of agriculture by default i.e. market forces underlying the change. Land use does alter as a result of demand and the pressure depends upon supply (see Diagram 3). In terms of supply Canterbury has little available land.

An interesting exercise is one concerning the location of new development by the Planning Authority. The Planning Authority has indicated where further residential development would take place. The City Plan suggests that 2,800 dwellings will be needed up to 1991. Although infill will account for nearly half after 1986, 1,500 dwellings will be accommodated on "new sites". At least 800 will be on green field sites. The two sites suggested would be Neal’s Place Farm and Ridlands Farm.

Neal’s Place Farm.

This is an area between the settlement of Rough Common and the built environment west of the City. To the south it has the Harbledown By-pass and to the north Kent College playing fields.

"In terms of agriculture much of the land is not of the highest quality land but if it was developed it would result in a loss of land to farming production."

(Choices and Strategy, 1981)
Vulnerability Of Agricultural Land At Neals Place Farm
Clearly, there has been a change in position on the area by the City Council because they end their report by stating this steeply sloping land is unsuitable for development. (Choices and Strategy, 1981)

The area concerned is out of agricultural production and it is interesting to note why. Firstly, the farmer is farming on licence only - 1 year granted by the City Council so that compensation would not be high. The land itself is surrounded by housing on three sides, it is a small irregularly shaped field (7 ha.), accessibility is provided by means of a track (see Diagram 4). It does seem a case where agriculture has ceased due to vulnerability.

Perhaps the most interesting site for development is in the south between Wincheap and the Nackington Road. This area is priority for agricultural use and high quality agricultural land is in the vicinity. It provides some evidence that the By-pass has had an effect on this piece of land.

"Structurally this area forms part of the area of high quality agricultural land lying to the west of the city and it would not be considered as an area of possible development if it were not for the apparent severance effect of the By-pass".

(Choices and Strategy)

It further adds that the By-pass may be seen as a new edge to build up to for development. Quite clearly it does take agricultural land from use and it appears from the final planning document that this is not proposed. However, already further planning permission has been sought for the site.

Above all, the two examples show the underlying causes of loss of agricultural land as being demand, supply and factors of fragmentation.
Planning Documents which affect Agriculture in the Fringe.

There are two other planning documents which relate to the subject of agriculture in the fringe - the Kent Countryside Plan and the Stour Valley Plan. The plans are important because not only do they show recognition by the planning authorities of the importance of agriculture but also involve the definition of areas and, particularly, where to place boundaries around the towns.

1. The Kent Countryside Plan

The Kent Countryside Plan (1982) is a subject plan for agriculture, landscape, nature conservation and the undeveloped coastline. It is meant to provide a clarification of a number of policies for countryside conservation. The Plan states that much of Kent is unaffected by urban development but acknowledges the pressures for recreation from both urban and industrial development. The most important policy (C3) is that relating to areas of special significance for Agriculture (A.S.S.A.). There are seven which have been defined and they include the extensive tracts of the best farmland (i.e. Grades I and II). A detailed boundary has been prepared for each of the A.S.S.A. which relates the pattern of agricultural land quality shown on the M.A.F.F. Map to suitable features on the O.S. Maps. Low quality land has been excluded and small pockets of high quality land also. The plan is anxious to stress the comprehensive overall strategic policy to provide long term protection and it is the belief of the planning authority that this is the best way of achieving it. It should be noted that a great deal of farmland of all grades lies outside these A.S.S.A.; it both needs protection and should receive it under the normal planning system. The Kent Countryside Plan writes "The local planning authorities will give priority to the needs of agriculture over other planning considerations."

The boundary of the A.S.S.A. with Canterbury is shown on Map 4. The question is whether it does reflect the boundary of the fringe and
does it conflict with the views of the City Council?

There are difficulties in the detailed delineation of the A.S.S.A. and it is useful to consider two examples of this. The City Council maintain that the A.S.S.A. should be redefined to reflect the proposed urban area as indicated on the District Plan. The City Council wish that the area west of Nackington Road should be excluded. The locations of these two examples are shown on Map 5 and the issues now discussed.

Example 1. Ridlands Farm Site (Map 5).

The area has some 22 ha. of farmland, about 14 ha. is designated for education and some 10 ha. of other developed land. Although M.A.F.F. Maps show it in predominantly urban use it has been found to be composed of Grade I and II land. The farmland shown is required for new housing and a Hospital extension.

The County Council strongly objects to this use and states in unequivocal terms that it would be a breach of the planning policy of protecting good agricultural land. It further adds that it does not accept that an alternative site is not available. The conclusion of the County Council report is thus:

"The farmland to which this objection relates forms part of the continuous belt of Grade I and II land which lies to the south of Canterbury and extends up to the urban edge and it meets the general criteria adopted in defining As.S.S.A....the County Council does not therefore accept that there are any grounds for its exclusion from the A.S.S.A."  

(Kent County Plan, 1982)

Example 2. Wincheap (Map 5).

This plan has included small areas of land in the Wincheap area (1) which is no longer required for educational use and (2) Allotments.
The City Council wish the A.S.S.A. to be removed as land has been allocated for use. The County Council wish it to be in the A.S.S.A. because the educational site is at the moment in agricultural use and the allotments are semi-agricultural. They form part of the broad sweep of agricultural land which runs up to the urban edge of Canterbury. If the boundary is kept as shown by the County the A.S.S.A. would provide long term protection to this land at the urban fringe and should the allotment use cease the site under the A.S.S.A. would revert to agricultural use. Thus, the County Council duly did not accept the City Council objectives. The two examples shown have illustrated the following points:

(i) Quite clearly there are other opinions than that of the City Council Planning Department which one tends to accept readily.

(ii) The fact that there is an assumption that agricultural land will remain where it is good quality tends to override this principle.

(iii) The precise definition of the fringe in agricultural terms is difficult to draw.

(iv) Where a new barrier is built i.e. the By-pass, there is an assumption that one can build up to it to form a neat line of urban development.

(v) There is an assumption that in the A.S.S.A. there is a strong conservation ethic.

2. The Stour Valley Plan (1980) (Map 6)

The areas from Canterbury to Sandwich and Canterbury to Ashford form the Stour Valley plan area. The Stour Valley plan was produced by the County Council with the help of the District Council in preparing a plan for the Valley. It highlights the importance of agriculture - some 55% of the land lies within the classifications of Grades I or II
Source: Canterbury City Council
Information Leaflet 1980.

MAP. 6.
compared to the County average of 36% and a national average of 17%. Much of the area is included in the Countryside Plan as A.S.S.A. The most important parts are those close to the City.

To the west of Canterbury the valley floor consists of a belt of alluvial meadows but the area has ceased much of its agricultural production because of gravel working. Above the flood plain to the north, where head brick earth offers good soils, fruit and hops are grown.

The section to the east of Canterbury has lost a lot of its agricultural significance because of mineral working and colliery subsidence. However, immediately by the main Thanet/Canterbury road there are soils in Grade I and II categories. The plan has attempted to consider the changes of agricultural practices via aerial photographs but recognises the considerable subjective evaluation involved. The results were as follows:

The amount of land in agriculture west of Canterbury remained about the same between 1961 and 1972, the decrease being less than 1%. The figure of 1% does hide some changes e.g. 13% increase in arable land since 1961 - 1972 and a 14% loss in grassland. Orchard land had also been reduced significantly. The reason, the plan suggests, for this change to arable was that better drainage of fields meant that land could be used. Significantly, it states:

"Overlying any basic physical improvements the land is the economics of the industry and given the financial incentive to increase agricultural production by both the E.E.C. and our own government, this conversion trend may well continue in the future."

In the area east of Canterbury the total agricultural land has remained almost static between 1961 and 1972 - the rate of conversion to arable land only about 6% - 6.5% and a decrease in grassland. Orchard loss has not taken place. The increase of arable land is
expected to continue due to the draining and improvement of the Stour Marshes.

Table 3

Agricultural Holdings by Parish

<table>
<thead>
<tr>
<th></th>
<th>Area West of Canterbury</th>
<th>Area East of Canterbury</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967</td>
<td>179</td>
<td>233</td>
</tr>
<tr>
<td>1972</td>
<td>131</td>
<td>183</td>
</tr>
<tr>
<td>1976</td>
<td>126</td>
<td>176</td>
</tr>
</tbody>
</table>

Stour Valley Plan (1980)

The Plan ends with a few general trends. Firstly, the number of agricultural holdings between 1972-76 has decreased. The reason put forward was that the price was prohibitive to a newcomer and hence it was sold to a neighbouring farm. Secondly, the rising costs will reduce labour forces so the emphasis will be on rationalisation and mechanisation. Thirdly, increasing the intensification of fruit cropping will alter the varieties of trees.

The Stour Valley Plan emphasises the point of view of R. Best (1981) that land is not being swallowed up by the urban environment. However, it illustrates the internal changes which are taking place within the agricultural industry. Market forces are still playing their role, albeit in a less open way, for instance, where E.E.C. subsidy encourages a particular type of farming or the cost of land. These seem basic economic factors and, although planning control can prevent loss of land, it cannot prevent changes of use due to economic factors, consequently planning control is not as comprehensive as it would at first seem. The success of keeping agricultural land relies first and foremost on economic forces rather than on planning policy.
Theoretical Base for Agriculture (The Economics of Fringe Farming)

It would be valuable to put the study on a theoretical basis for this could provide substantiation to the findings. How far does the pattern link with theoretical concepts? Should one expect different factors to apply within the fringe?

From the evidence of the study it is clear that market processes are not so obviously present as they were. They are, however, still there. Land use can still be discussed in terms of supply and demand and in terms of revenue received. It is significant that the M.A.F.F. in Technical Report No. 11 adds to its physical classification of grades of land and economic classification. This is an important point because to the farmer the question must be what is the land worth? W. Found (1971) states that land value refers to (a) the contribution which land makes in the production process and (b) the price one receives or could expect to receive from its sale. The present value is the sum of future incomes which the land will yield. This can be represented mathematically by \( v = \frac{e}{r} \); \( v \) the present value, \( e \) the expected yearly rent, \( r \) the interest rate. Although it might appear too theoretical, it is not very different from the M.A.F.F. procedure. The M.A.F.F. uses the standard net output. It is based upon the grades of land distinguished by the physical classification. The standard net output is defined as the estimated value of the agricultural production directly attributable to the land. The national standard output per acre of crop is the national average yield per acre \( \times \) the national average price less the value of seeds sown.

The M.A.F.F. states that forage crops are particularly difficult because there is no market for them. For livestock, the output of a dairy cow is the average national yield per cow \( \times \) national price less the value of food. From the point of view of the study it does not matter too much how the statistics are calculated but it illustrates how the economics of agriculture are important not just as a theoretical base but in reality.
A feature that the M.A.F.F. does highlight is that economic return is important. This was and is the case inherent in much of agricultural economics. Indeed, the bid-rent curves would virtually determine the land use according to classic normative theory. Economic Rent is somewhat difficult to define but it refers to an excess payment which takes into account the opportunity costs - its main use is to help explain land use competition.

The actual formula for Economic Rent is given as

\[ E = (p - c - td) y. \]

\( E = \) Economic Rent per unit area.
\( p = \) price per unit of production.
\( c = \) costs (excluding transportation) per unit of product.
\( t = \) transportation cost per mile per unit of product.
\( d = \) distance to market.
\( y = \) yield (units of production) per unit area.

(Found, 1971)

All of the information necessary to find Economic rent would provide a valuable assessment if the information could be found.

However, even Von Thunen recognized that deviations from the normative pattern would occur because of spatial variations. For example, at its simplest level a town expanding outwards could displace all rings in an outward direction.

It must be said that this simple relationship of the market and distance is unlikely to operate in the environs of Canterbury. Indeed, agricultural land is often best farmed away from the intrusion of the urban environment and little produce is sold locally in any case. Found has identified these concepts which he believes account for the value of land and reasons for land use around the city. These are
(1) the land's potential for urban development;

(2) its value as a rural residence;

(3) the effects of urban employment on farm output.

In terms of land use competition rural interests cannot compete because urban ones are willing to pay high prices i.e. effective demand. The concept of speculative demand can be added because if land is likely to be developed in the very near future the price will rise. Found indicated that the speculative value had a distance function.

There are at least some indications that there is a speculative factor in farming. Certainly, it is likely to be apparent where urban growth meets agricultural land i.e. in the fringe areas. An example is where the standard net output is deliberately allowed to decline due to lack of investment. This obviously causes a decline in the efficiency of agriculture; consequently, both planning authorities and developers can question the value of its agricultural output. In a real world situation the curve is not likely to be downward sloping but that does not invalidate the concept.

The speculative process is a difficult one to try to measure but there is evidence e.g. Neal's Place where uncertainty about its future has meant the decline of agriculture. Another point is that vulnerability to urban expansion means that an area which has two or three sides of the field bounded by housing is likely to be earmarked for development. Found has even suggested that in the U.S.A. farmers, realizing that urban use was probable, abandoned conservation practices and depleted the land resources over a short period. There seems to be little evidence of this in Canterbury and probably with a less free market such action would not occur so much.

Another theoretical model is brought into focus and that is Sinclair's (1967). There is a possibility that the farmer might have
some kind of part-time job linked with the urban environment. In that case it can be assumed that the likelihood of obtaining an economic return from employment will have a distance-decay function.

The question has to be asked whether the theoretical side of land use has anything to offer the study of the rural-urban fringe? The answer must be yes and it has at least the following to commend it:

(1) Within the rural-urban fringe actual processes are difficult to identify – none more so than that of agricultural use. It is virtually impossible to identify one simple process and this does not have to be confused with the result of a process. The theoretical side suggests at its various stages of sophistication a concentration on one factor i.e. economic return. This helps one to identify considerations which affect economic return.

(2) At the lowest level the theoretical base gives the framework for a study and provides some order – without it there would be just a collection of facts.

(3) However, it is fair to say that because the fringe has been neglected the models are a little clumsy for the fringe area. Nobody has put forward a model exclusively for the fringe and the models of agricultural land use have been crudely adapted.

"Up to this time no one has formulated a well tested combined model of general application. Much theoretical and empirical research remains to be done in rural-urban fringe areas....." (Found, 1971)

No model would be expected to provide all areas of fringe land with a simple answer of processes but it might provide this framework which is needed extensively for the fringe. At the very least this brief consideration shows that models are in a very early stage of development as far as the rural-urban fringe is concerned.
The Problem of Fringe Farming

The most comprehensive study of the problems of fringe farming was carried out by the M.A.F.F. in the Slough/Hillingdon area (1973). This short section is not going to be a synopsis of the report but an attempt to show that some of their findings could be applied to Canterbury. The conclusion of the Slough/Hillingdon survey states that the problems are often minor but they can be considerable when added up.

The list of problems identified is as follows:

(a) Damage to crops by trampling.
(b) Damage to fences and gates.
(c) Dumping of rubbish.
(d) Theft of crops.
(e) Damage to farm machinery.
(f) Worrying of livestock.
(g) Rustling of livestock.
(h) Poaching.
(i) Arson.

Of one hundred holdings surveyed sixty had suffered trespass damage. The most prevalent forms being the stealing of crops (34%), rubbish dumping (33%) and damage to fencing (28%).

It is likely that the theft of crops, e.g. from orchards, is a
major problem in the environs of Canterbury. This is not purely speculative because there are indications on the farms that the problem has occurred. The regional office of M.A.F.F. has no written data on these problems but this is some of the evidence:-

(1) There are padlocks on many of the gates to the fields.

(2) The gates are not five bar gates but can be 12 ft. high so that it is difficult climbing over them.

(3) The fences often have barbed wire to prevent easy access.

(4) There are notices which indicate that guard dogs are on patrol.

(5) Notices are put up to indicate that trespassers will be prosecuted.

As stated, it is not surprising that there should be above average precautions and it is fair to say that "scrumping" has gone on for years. However, most of the raids are not minor but carried out by professional gangs who will go to sophisticated lengths to obtain farm produce.

The law of trespass is complex and there has been at least one case where gypsies were occupying land but could not be removed easily. The problem of intrusion on to farmland can be divided into two types depending on what apparently seems harmless to that of criminal damage. One is inconvenient, the other disastrous to the farmer.
A key factor in this is accessibility. At Hillingdon accessibility was greatest where footpaths crossed land. This is not very surprising and it is indicated by the precautions taken - no longer open access but a corridor with barbed wire either side.

It might appear from the above that the best place to farm would be in an inaccessible area cut off from the urban population. On the other hand, it is possible for the farmer to turn this accessibility to his advantage. This has been done in Kent and also in other areas of the country where 'pick your own fruit' is regularly seen. The advantages are that (a) labour costs are small and (b) it is a way a field might be used rather than left vacant. The farmer probably sells more fruit this way as people tend to pick more than they realise.

Bowler (1981) has investigated the nature of P.Y.O. and has noted that it is a significant development in British Agriculture. It reflects not only the trends in society i.e. the increase in leisure time and ownership of deep freezes but it also reflects the reactions of farmers to a new marketing situation. The farmer can offer fresh, high quality produce below retail levels and also save on transport costs. There has also been some evidence that there has been a difficulty in attracting casual labour to the farms for harvesting.

"Undoubtedly the returns to P.Y.O. are superior to those obtainable under more traditional marketing methods (Steer, 1980) but most growers combine P.Y.O. with selling through conventional channels."

(Bowler, 1981)

Bowler shows that the greatest development of P.Y.O. marketing has been in soft fruit where the highest profit margins are. Also there appear to have been growth phases which have a spatial dimension. Before 1972 the P.Y.O. counties included Norfolk, Suffolk, Essex, Sussex and Dorset. In Kent, Surrey and the eastern counties of Cambridgeshire to Lincolnshire P.Y.O. grew between 1972 and 1975 and
there is a final group where it has grown post-1975. There seems to be a link with urban growth and the timing of P.Y.O.; accessibility is also a key factor.

The important point is that P.Y.O. is a response to urban processes and is taking advantage of new social and economic conditions. In some cases the "Farm Shop" has also developed, this sells not only the farm's immediate produce but also other fruits which are brought in. An entirely new source of farm income is provided.

Table 4.
Farming and Recreation

Random Sample (1008 questionnaires, 629 returned)
of 960 Farms 9.6% had some recreational enterprise
Of these 9.6%

<table>
<thead>
<tr>
<th>Recreation</th>
<th>%</th>
<th>adj. for 1008</th>
<th>Of total sample</th>
<th>Estimated total in Kent Surrey &amp; Sussex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carav. Sites</td>
<td>2.5</td>
<td>25</td>
<td>2.5%</td>
<td>150 - 350</td>
</tr>
<tr>
<td>Farm Acc.</td>
<td>0.8</td>
<td>9</td>
<td>0.9%</td>
<td>33 - 140</td>
</tr>
<tr>
<td>Horse Riding</td>
<td>2.9</td>
<td>30</td>
<td>3%</td>
<td>195 - 404</td>
</tr>
<tr>
<td>Camping</td>
<td>2.5</td>
<td>20</td>
<td>2%</td>
<td>114 - 285</td>
</tr>
<tr>
<td>Nat. Reserve</td>
<td>0.6</td>
<td>6</td>
<td>0.6%</td>
<td>12 - 107</td>
</tr>
<tr>
<td>Fishing</td>
<td>1</td>
<td>8</td>
<td>0.8%</td>
<td>24 - 135</td>
</tr>
<tr>
<td>Motor Cycle</td>
<td>1</td>
<td>6</td>
<td>0.6%</td>
<td>12 - 107</td>
</tr>
<tr>
<td>Shooting</td>
<td>2.7</td>
<td>21</td>
<td>2.1%</td>
<td>122 - 297</td>
</tr>
<tr>
<td>Misc.</td>
<td>1.9</td>
<td>19</td>
<td>1.9%</td>
<td>106 - 273</td>
</tr>
<tr>
<td>Total</td>
<td>99</td>
<td>144</td>
<td>14.4%</td>
<td>768 - 2098</td>
</tr>
</tbody>
</table>

(Bull and Wibberley, 1977)
Mention has already been made of Bull and Wibberley's study (1976) of recreation on farms and the advantages that it has to the farmer - namely, recreation without releasing land from agriculture, reduction of conflict with the town, controlled access and greater understanding with the local community. It further has the overall principle of multiple use of land. The table shows the results of the Bull and Wibberley study.

Canterbury Farms

The number of farmers in the fringe of Canterbury is not as many as one would first think. There are in fact only about seven farms. As the detail indicates not all of these are owner farmers.

The Seven Main Farms in the Fringe are:-

(1) Little Barton Farm:–
The farm is involved in fruit and is run by a resident Manager.

(2) Nackington Farms Ltd.:–
Main produce is fruit, hops and vegetables. The farm has a shop and is run by a Manager.

(3) Merton Farm:–
This is run by a tenant farmer and his production is of fruit, hops, vegetables, cereals and cattle.

(4) Wincheap Farm:–
The produce is of hops, fruit and cereals. The Farm has a shop.

(5) Hospital Farm (Harbledown).
Farming is in hops and fruit.

(6) Neal's Place Farm:–
This is owned by Canterbury City Council and is licensed to Fisher Farms based at Faversham.

(7) Folly Farm:–
This is small scale market gardening with a farm shop. The
owner has a considerable area of grassland on the hill behind
the Council estate where he keeps some cattle.

A questionnaire survey was carried out on these farms but it
proved difficult to operate as not all farmers replied despite a
telephone call before leaving it. The questionnaire and detailed
results are published in the Appendix.

Although the results were limited, they do confirm a number of
features which are worth noting:

(1) All the farms lost some agricultural land, ranging from 20 -
50 acres.

(2) Three out of the four farms suffered fragmentation.

(3) There were two main urban land uses near the farms - either
housing or the By-pass.

(4) All suffered moderate/severe damage from theft and vandalism.
The figure was between £2 - 3,000.

(5) Opinion was divided between them as to how much access the
Public should have.

The loss of agricultural land is illustrated by the study of the
agricultural statistics for the years 1973 and 1981, (Table 5). They
show the land loss of the parishes which surround Canterbury. They
indicate a net loss of some 567 ha. over 8 years. This is about 70
ha. p.a. but it should be noted that not all parishes have lost land
from agriculture. Three areas have lost - Thanington, Sturry and
Adisham. Thanington and Sturry are not surprising as these are
important areas in the fringe; they would both be classified as areas
of proliferating fringe. Of course, with the use of the figures care
is needed in their interpretation along with the ramifications implied
but they do confirm the results of the survey of farms.

Table 5.


<table>
<thead>
<tr>
<th></th>
<th>Total Crops and Grassland 1973</th>
<th>Total Crops and Grassland 1981</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ha.</td>
<td>ha.</td>
<td>ha.</td>
</tr>
<tr>
<td>Littlebourne</td>
<td>753</td>
<td>936</td>
<td>+183</td>
</tr>
<tr>
<td>Adisham/Bekesbourne</td>
<td>881</td>
<td>605</td>
<td>-276</td>
</tr>
<tr>
<td>Thanington Without</td>
<td>676</td>
<td>458</td>
<td>-218</td>
</tr>
<tr>
<td>Sturry/Hackington</td>
<td>1438</td>
<td>1089</td>
<td>-349</td>
</tr>
<tr>
<td>Lower Hardres</td>
<td>765</td>
<td>818</td>
<td>+ 53</td>
</tr>
<tr>
<td>Fordwich</td>
<td>138</td>
<td>177</td>
<td>+ 39</td>
</tr>
<tr>
<td>Bridge/Patrixbourne</td>
<td>719</td>
<td>748</td>
<td>+ 29</td>
</tr>
<tr>
<td>St. Cosmus and St.</td>
<td>740</td>
<td>712</td>
<td>- 28</td>
</tr>
<tr>
<td>Damian in the Blean</td>
<td></td>
<td></td>
<td>net loss of</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>567 ha.</td>
</tr>
</tbody>
</table>

The Survey confirmed that trespass is not only a nuisance but an economic cost of locating, not by choice, near an urban area. There are wider planning implications for the fringe. Presumably agriculture is a legitimate land use which has to be managed with the urban area. It would not be very satisfactory if urban land use was wholly incompatible with the type of agriculture. This would result in a much narrower choice of strategy because Canterbury is largely surrounded by agricultural land.

The implication and lesson which must be drawn are that management is the key. Management in terms of making urban dwellers aware of the
needs of agriculture but also making the countryside accessible to them in suitable areas. This would involve making footpaths so that there would be no need to break fences or trespass. Similarly, perhaps "kissing gates" could be used so that people do not have to remember to close them. Thus, it is education of people to use the area largely for informal recreation. Formal recreation must be catered for adequately and not close to key agricultural areas. This vigorous policy would of course bring obligations on the farmer.

It would require him to be rather less monopolistic of his land and remind him that he is a guardian of a national resource. The farmer must not be expected to pay for recreation by urban dwellers but it might be possible to make a small levy on farmers to help provide the resources - no more than is at present being lost to vandalism.

Through management and co-operation agriculture may be undertaken successfully in the fringe so that it benefits the farmer and the rest of the community. At its lowest level planning is about the resolution of conflict and at its highest is making better lives for all in the community.

---***---
Industry is an important part of any city both in terms of land use and because of the contribution to the economy of the City. Canterbury has a number of features which are worth noting. The first is its position as the regional centre for East Kent, the second as the major tourist centre for Kent.

It can be noted that up to the Industrial Revolution it followed a largely typical pattern of development - a market town and agricultural services for the products of the countryside. However, by the early Nineteenth Century it was clear that the city was not to grow as a major manufacturing centre for it did not have water power or coal or a labour supply. This is particularly important because the structure of employment today shows a small manufacturing base but very large employment in the service sector i.e. some 80% of the total employed.

Diagram 5 illustrates aspects of industry related to Canterbury and its fringe; these will now be studied.

There are 1.33 million sq. ft allocated or occupied by industrial activity in Canterbury. There are only comparatively small sites in the built-up area such as Roper Road, Whitehall and Station Road West. Therefore, because of the scarcity of land not only relocated industries but also new industries had to be located on 'new' land in the fringe e.g. Pedigree Dolls and Toys at St. Stephens, Robins Paper Bag Company in Broad Oak Road, Lucas Services and County Pine Furniture on the Wincheap Industrial Estate and Knights Metal Works on the Vauxhall Industrial Estate.

Since 1945 the growth of population has required the development of industrial employment and the pre-war pattern could not satisfy the demand. In 1977 the employment figures show the absence of any heavy industry and light industry has affected the use of land in new sites in the fringe.
Diagram 5.

Aspects of Industry as Related to Canterbury

- Shopping in a Sub-Regional Centre
- Services Distributive Trades
- Nurseries
- Traditional Market Town Industries
- Warehousing
- Mineral Extraction

INDUSTRY

Planning Policy

Demand for Land
Mineral Extraction.

Mineral extraction has played a part in Canterbury's economy, albeit a declining one. It has little coal nearby - the nearest being Chislet which was closed in 1969. The major impact has been in purpose built villages at Aylesham and Hersden which are in the fringe.

The main mineral activity is the extraction of sand and gravel and the Stour Valley Plan indicates the extent of the past and present workings. Map 7 shows the areas to the north-east of the City with the sites mentioned below. The impact is in terms of land use rather than in employment. The leading firm is Brett's and it has had an important effect on the shape of Canterbury's development by its gravel extraction activities in the Stour Valley both up and down river from the City cf. the effect of the holdings at the big fruit farms, like Mounts, in the area from south-east to west of the City of Canterbury. In addition to this, the work at Chislet has left a site part of which contains the new Industrial Park at Hersden (Site 4) where land is available to accommodate new undertakings so reducing the pressures on land nearer the City.

The development of minerals is indicated by the Kent Minerals Plan (Nov. 1983). Canterbury has made its contribution to the 4.5 million tons of concrete aggregate. As stated the main effect has been in terms of land use. Along the river from Chartham to Chislet there are a number of lakes which have been created as a result of excavation e.g. Chartham, Vauxhall and Westbere. The actual land loss has largely been from rough grazing and development has not solely been prevented by gravel excavation but also because of the Southern Water Authority's wish to preserve the flood plain as it is. A subsidiary activity has been the use of the lakes for providing organized facilities for Angling and Sailing (Site 3) with possibilities for greater recreational expansion in other ways. This has the associated generation of traffic and new access roads.
WORKED OUT MINERAL SITE NOT FULLY RESTORED
GRAVEL RESERVES WHERE PLANNING PERMISSION HAS EXPIRED
ACTIVE SAND WORKING
SITES SATISFACTORILY RESTORED OR NATURALLY REGENERATING
WASTE DISPOSAL SITE
The Kent Mineral Plan (1983) also mentions a possible Rail Aggregate Depot at Shelford Quarry (Site 1) which would increase the demand for land.

Sand extraction is carried out on higher ground bordering the river east of the City e.g. Trenley (Site 2), Barton and Shelford; some of the effects apply but restoration of sites provide different problems. Some sites have been returned to their former state e.g. Broad Oak, but others like Westbere Butts await restoration and some, like Shelford and Hersden, are for waste disposal. Thus, the gravel and sand extraction has been partly as a result of physical characteristics and partly as a result of economic forces - the demand for aggregate as well as a deliberate policy of not building in the flood plain. However, when multiple use is made of the lakes it encourages the operation of centrifugal forces of moving people to the fringe for recreation.

An important development in the fringe is the new Canterbury Industrial Park at Hersden (Site 4). This is on the site of the former Chislet Colliery. The Secretary of State in December, 1983, approved a further 30 ha. for industrial use (H.E.C.5) up to 1991. The industrial park of 26 ha. was included in this. Some 19 ha. remain to be developed, 9 ha. of this require further time for settlement. Warehousing and factory units of 1200 - 5000 sq.ft are available. In addition, it is advertised that purpose built buildings fully serviced from 0.5 to 10 acres are available. The type of firms there at present are as follows:- A Crane Hire Depot, M.O.T. Testing Station, 4 large Warehouses (Jewson Timber, Oxygen Gas, Southern Paper and Canterbury Conveyors). Some of these are both manufacturing and warehousing. On the site there is considerable room for expansion; it is some five miles from the city and is on the northern slope of the Stour Valley; it has below it Westbere Lakes produced by former gravel extraction. It is a sensible use of land which is poor agriculturally but it could affect the visual aspect of the area particularly if the land below it, i.e. Westbere Lakes, is to be used for a Country Park. An access road
to the A.28 has been built and hopefully traffic will not be taken into
the central area; if it should, then it will exacerbate the problems in
the City.

Out of Town Shopping

This activity can be divided into two types of retailing - one
concerned with food and convenience, 46% of the total floor space
(16,350 sq.m.) was found to be used for this in the central area in
1976, but the trend for closure of small shops in favour of
Supermarkets, offering the economies of scale and accessibility for the
car, has led to the building of three large food stores in the fringe
e.g. Keymarkets in the Sturry Road with 2790 sq.m. of floor space for
which the Secretary of State granted permission in spite of the City
Council policy. In addition, there has been provision of 950 sq.m. for
Sainsbury's at Kingsmead Road and 930 sq.m. for Tesco's in the Broad
Oak Road. It is estimated that up to 45% of the central food and
convenience turn-over will have been diverted to the fringe. (Summary

Another category is that for the retailing of durables. This is
much larger within the area than the requirement for food.

<table>
<thead>
<tr>
<th></th>
<th>Floor Space (1973)</th>
<th>Turnover (1971)</th>
<th>C.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durables</td>
<td>84,000 sq.m.</td>
<td>£24.7 mil</td>
<td>£18.2 mil</td>
</tr>
<tr>
<td>Food</td>
<td>16,000 sq.m.</td>
<td>£ 7.47 mil</td>
<td>£ 4.2 mil</td>
</tr>
</tbody>
</table>

These figures confirm a more dispersed pattern of retailing since the
mid-1960's as a result of centrifugal forces. The Wincheap Estate
alone has 8550 sq.m. of floor space, e.g. Carpetland, Queensway, Texas
and Comet, and the pattern is repeated in the Sturry Road with Argos
and Pay-Less.

The City Council has tried to restrain development, particularly
in retail trades, but it has had to recognise the need for space for
The influence of Kings School Playing field - a conservative element in the landscape.

The main area of Warehousing, with Marshwood Close showing new development.

Public Utilities can be seen with the C.E.G.B.

Further open space which will be used for warehousing.

The main Sturry Rd. linking Canterbury with the Thanet towns.

PHOTOGRAPH NO.1. Source: Aerofilms. (Ref. No. 320548)
bulk goods which could not be located in the Central Area. A further point is that Canterbury has the largest turnover and floorspace in East Kent and the Draft Survey Report (1979) suggests an importance above that of a sub-regional centre. Towns are served by Canterbury and the transport network enhances shopping on the periphery rather than in the core. Furthermore, Canterbury is a supplier of goods to other towns, consequently the need for storage depots, and, because of the need for size and access, they have to be located in the fringe i.e. at Wincheap, Broad Oak and Vauxhall Estates. Warehousing occupies some 1.5 million sq.ft. thus competing with industry for the demand for land. Photograph No. 1 illustrates something of this in the North-East fringe.

There is little doubt that the "out of town shopping" and warehousing has had a major impact on the fringe in terms of its land use and the contribution of generating traffic and people in a peripheral location (see Diagram 5A). In many ways it has physically extended the townscape in a rapid way. The planning authorities at both the City and County levels recognise this considerable force and the Structure Plan stipulates that shopping developments should be restricted to traffic capacity (H.E.15). However, it could be argued that the economic forces have rather overtaken the policy because the A.28 Sturry Road is relatively narrow yet has to cope with commuter, through and local traffic. The same problem can be identified at Wincheap with only two access points to the Industrial Estates.

Thus, one of the determining factors for the success of out of town shopping is that of accessibility and it now poses a key problem for the Authorities.

Other Miscellaneous Industries

An important role of Agriculture has been the way it has adapted to the demands of the City illustrated by Market Gardening, Nurseries and Garden Centres. The demand for garden centres is part of a social
Diagram to illustrate the dominance of fringe locations for light industry and out of town retailing.

Out of town shopping
Keymarkets, Sturry Rd.

Small sites in the core e.g.
Roper Rd, Whitehall Station Rd.

Vauxhall Estate
Broadoak Oak Rd and Sturry Rd

Shelford Quarry

Wincheap
Industrial Estate e.g.
Lucas, Country Pine Furniture

Westbere Country Park

TOWNSCAPE

Gravel Extraction at Chartham

Peripheral Location of Hersden Industrial Park (26ha)
trend of greater leisure and lower density housing. By their nature the garden centres require space to store plants and facilities for producing seedlings and cuttings. They also need to be close to retail points unless there is complete reliance on passing traffic. These garden centres are on the perimeter or a few miles from the City, examples can be found at Sturry Road, Chilham, Chartham, Dunkirk and Blean. Initially some were small sites but they are now on a large scale; this has been necessary as the large super stores compete with them.

Mention, albeit briefly, should also be made of Offices because like the rest of the Service Sector demands have been made on fringe land in competition with industry. This has been due to the 1975 Interim Office Policy directing new Offices to sites allocated for business purposes outside the City walls. (82% of floorspace for offices was located in the central area). There were not many suitable vacant sites; Clarksons, one of the new national Head Offices, was able, however, to establish itself at Rhodaus Town near the East Station. But the new District Council complex and the large Post Office Headquarters are sited on the former M.O.D. Chaucer Barracks, British Telecom at Rheims Way and other firms in St. George's Place. To accompany the use of land would be the generation of traffic on the fringe highways to create off centre traffic concentrations of significance though much smaller than the Industrial Estates of Wincheap and Broad Oak.

The Nature and Distribution of Employment

It is impossible to distinguish between employment in the fringe and city centre, indeed, it would be quite wrong to do so but the general pattern of employment does indicate the importance of the fringe. Employment data, 1959-1977, in the Canterbury Exchange area shows the reduction of Mining, Quarries, Manufacturing and Construction and the growth of the distributive trades many of which were located in the fringe.
In 1977 total employment was 29,330 (1241 unemployed) nearly half of whom commuted. Some 14,000 would go to the Central Area but half would be going to fringe locations as the table suggests.

Table 6.

<table>
<thead>
<tr>
<th>Employment Sites in the fringe</th>
<th>Classification of site</th>
</tr>
</thead>
<tbody>
<tr>
<td>University/Kent College/</td>
<td>Fringe Site</td>
</tr>
<tr>
<td>St.Edmunds</td>
<td></td>
</tr>
<tr>
<td>Market Way, Broad Oak</td>
<td>Fringe Site</td>
</tr>
<tr>
<td>Vauxhall, Sturry Road</td>
<td>Fringe Site</td>
</tr>
<tr>
<td>Barton Mill</td>
<td>Fringe Site</td>
</tr>
<tr>
<td>Kent &amp; Canterbury Hospital</td>
<td>Fringe Site</td>
</tr>
<tr>
<td>Nunnery Fields</td>
<td>Fringe Site</td>
</tr>
<tr>
<td>Wincheap</td>
<td>Fringe Site</td>
</tr>
</tbody>
</table>

Clearly, the table illustrates the economic service importance of the area. The dominance of the service industries in Education and Health are evident. The question is whether this trend will continue; it appears that it will. It is important that planners do have an estimate of the labour supply for the future so that land can be allocated. Figures before 1981 have not been able to account for the growth of unemployment but conversely the Service Sector (80% of employment) has been shown to be more resilient to trade cycles cf. Keeble's Analysis (1981) of de-industrialisation in many urban centres. It is estimated that the labour supply will grow by 270 p.a. from 1979-1986 and 180 p.a. from 1986-1999 (County Planning Office) and so by 1991 2800 new jobs will be required. The Kent Structure Plan (H.E.C.11) stipulates that the general strategy is one of restraint; industrial development will be refused unless there are special considerations for local firms. The major growth will be deflected to Ashford. The Secretary of State, when approving the Structure Plan, considered that no further land should be made available. Since 1945 42 ha. of land had been allocated for industry (6.5 ha. at Wincheap).
In 1977 there was a further allocation of 15 ha. and this was to be the limit (Structure Plan C.A.I). In 1981 12.72 ha. remained to be developed. The restrictive policy of H.E.C.11 was further defined by H.E.C.11D that where land is in short supply priority should be given to manufacturing. It must be realised that warehousing is a large user of land but it does not provide many jobs. With this in mind it was not surprising that when the City Council were overruled by the Secretary of State over Supermarkets in the Sturry Road, other industrial sites were needed as substitutes. Though 4 ha. in Vauxhall Road and 1.3 ha. at St Stephens remain, still another 7.6 ha. would be required. This would have to be found in the fringe. These sites are described in detail to illustrate the pressure for land and their location in the fringe; this demonstrates that the fringe is inextricably linked with the total development of Canterbury.

Possible sites for Industry are:-

(i) Bretts Sports Ground and Thanington Allotments (5 ha.), this adjoins the Wincheap Industrial Estate to the east and the By-pass (new fixation/target line) to the west. Some different provision for allotments would have to be made.
(ii) Sturry Road Allotments and part of former brick works in Reed Avenue - this comprises about 3 ha. There is also planning permission in the area for 150 houses. If 3 ha. is taken for industry, the amount of housing would be reduced by half, alternative provision for this and 1 ha. for allotments would be needed elsewhere.
(iii) Shelford Quarry - this is to be filled by refuse. It could revert to agriculture or tipped so as to be level for industrial development after a time. Nearby there is a 5 ha. level site near the railway but road access would be difficult. It is also being considered for a Rail Aggregate Depot (Kent Minerals Plan).
(iv) A site north of the British Telecom Engineering Centre in the Littlebourne Road and west of Villiers Road. This is on the valley sides and forms part of the M.O.D land. It is unlikely to
be released in the foreseeable future because Married Quarters are planned there.

(v) Sturry Road (Marshwood Close) — 3.4 ha. of allocation is not yet developed.

(vi) West Station Goods Yard (1.5 ha.) in the built-up area is also available as part of the industrial allocation.

To conclude, there has been an analysis of the elements constituting the demand for land for Industry — the traditional Market Town industries, the Services Distributive Trades and Shopping in a sub-regional or special purpose centre, Warehousing, Nurseries, Manufacturing and Mineral Extraction. This has been linked to the framework of the labour supply. The result has been to show that the small scale of industry before 1945 had barely overlapped the built-up area apart from Mineral Extraction; indeed, there was not much pressure to do so from a small base. After 1945 there was a relatively considerable rate of growth. Population increased by 22% for Canterbury and 34% for Bridge Blean (1951-1971). The number of jobs (1945-1977) in the Canterbury E.E.A. expanded from 10,000 to 30,000. Of this total figure 80% employed people were in Service Industries, 8% Manufacturing and 6% Construction (Selected County Statistics, 1981). Almost half the total employment was in the fringe (this included the Service Sector of Education and Health which are considered in another section). The degree of commuting through the fringe has been illustrated. Regarding Industry itself, the Town Map of 1962, up-dated in 1970, shows development in the low lying Stour Valley up and down river of the City. This is continuing at the present, particularly in the Sturry Road area where a detailed land use Study in Chapter 3 shows a growth of 310% in industrial land use between 1960 and 1984. Although the industrial total for the Plan area is relatively small, because it is effectively zoned into two areas the local impact is considerable. These two areas are chosen because in other directions there may be:

(i) Agricultural land of a high grade, or

(ii) Lack of transport facilities, or
(iii) Stronger aesthetic and conservation factors
There are problems with the flood plain and water pollution. To extend much further would create difficulties. Firstly, the already constructed By-pass is planned to be reached at Wincheap, there is no access there the other side of the river where orchards are in the vicinity. Secondly, down river the low lying land which forms a wedge, between Sturry and Canterbury is already much reduced. Unless it is contemplated to go to the valley slopes, in which case the visual context of the historic city is damaged, or to infringe on high quality agricultural land, there is nowhere else to go except the Industrial Park or the coastal towns. Manifestly, industry operates within a policy of restraint so that there is expansion only for local firms, re-location or firms providing a local service. These must be located in an increasingly demanded fringe so that there is need to plan this area carefully and as a total entity.

--- *** ---
Housing and Population

Housing is an important pressure on the demand for land not only because of the area it occupies but also because all of the related aspects such as services, utilities and transport links required. It could also be argued that as Canterbury is not heavily industrialised the relative importance of housing is increased in relation to other land uses.

Housing in the private sector particularly is a function of demand and therefore must be seen in relation to population change both at a macro and micro-level as well as to government and local authority planning policy. The first section considers the nature of population change and its implications for the City. The study of population and population change is derived from a number of data sources - from Enumeration Districts, local Wards and from Census returns. It must be stated that there are difficulties in comparison because of the following:

(a) The County has been affected by G.L.C boundary changes i.e. a loss of area in the environs of London.

(b) In 1974 there was local government reorganisation which effected the disappearance of Rural Districts. This means that fringe areas are partly in the former City Council (County Borough) and partly in the former Bridge/Blean Rural District. Furthermore, there is a lack of a central rational storage of records pre-1974 - some are not even catalogued.

(c) There was a redrawing of Ward boundaries between 1971-1981.

(d) The civil parishes are not always the same as ecclesiastical parishes.

(e) Enumeration Districts have had boundaries periodically
redrawn to equate with the number of electors per constituency.

Despite these difficulties it is possible to state some important points. This has been helped by the fact that the Council have undertaken their own population survey for the 1979 Draft District Survey.

Population figures for the County

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,219,273</td>
<td>1,091,100</td>
<td>1,198,600</td>
<td>1,399,000</td>
<td>1,467,619</td>
</tr>
</tbody>
</table>

(From census material)

From this it can be seen that the population of Kent has increased by 9.8% (1951-61), by 16.8% (1961-71) and by 4.9% (1971-81). One would expect this growth in the light both of natural increase and the trends in the South-East reflecting decentralization to smaller county towns. In comparison over similar periods and as seen by the figures below the population of Canterbury grew by 9.3% (1951-61), 8.9% (1961-71) and 3.9% (1971-81).

Population figures for Canterbury

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25,109</td>
<td>27,800</td>
<td>30,400</td>
<td>33,100</td>
<td>34,400</td>
</tr>
</tbody>
</table>

(Census, 1931-1981)

This shows that there has been an increase in the population but not as fast as in some areas cf. Ashford 1951 - 56,378, 1971 - 79,000 and 1981 - 84,000. This is largely as a result of the policy of directing industrial growth and London overspill to Ashford. However, when the whole peripheral area of Bridge/Blean is added further growth is demonstrated.

Population for Bridge/Blean

<table>
<thead>
<tr>
<th>Year</th>
<th>Bridge/Blean 1931</th>
<th>Bridge/Blean 1951</th>
<th>Bridge/Blean 1961</th>
<th>Bridge/Blean 1971</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17,041</td>
<td>18,800</td>
<td>19,900</td>
<td>26,307</td>
</tr>
</tbody>
</table>

% change on previous census.

5.8% 32.1%
An important point to identify is whether the increase in population is due to natural increase or migration. The population analysis by the Council (1979) indicate the following trends.

Table 7

<table>
<thead>
<tr>
<th>Population Change</th>
<th>(000s)</th>
<th>Population Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Change</td>
<td>Nat.</td>
<td>Net Migration</td>
</tr>
<tr>
<td>Canterbury</td>
<td>+9.2</td>
<td>+2.3</td>
</tr>
<tr>
<td>Bridge/Blean</td>
<td>+200.7</td>
<td>+68.8</td>
</tr>
<tr>
<td>Kent</td>
<td>+200.7</td>
<td>+68.8</td>
</tr>
</tbody>
</table>

(Draft District Plan, 1979)

The Table shows that migration both at County and local level has been the dominant force in population change i.e. it accounts for three-quarters of total population growth.

An important feature of this pattern is that movement was largely within the County boundary, some 47% of immigrants coming to the City were from elsewhere in Kent (District Draft Survey, 1979). The age structure of the immigrants tended to be in the younger age groups with some 70% of them being of working age (District Draft Survey, 1979). This does indicate that the prospect for employment was a significant factor for moving to Canterbury. On a general basis the District Draft Plan (1982) has indicated a small natural increase in population up to 1991 despite the "Choices and Strategy" having earlier forecast a fall of 800. Together with the forecast of net immigration of 2,000 this creates an overall population growth. Not without relevance it should be noted that the Structure Plan (1980) stipulates that "Provision of land for housing will be restricted to that required to meet local housing demand". On a local scale population change can be shown from
a combination of data sources:

Table 8

Wards in the City

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Northgate</td>
<td>12,647</td>
<td>12,378</td>
<td>11,378</td>
<td>7,099</td>
</tr>
<tr>
<td>St. Stephen</td>
<td></td>
<td></td>
<td>6,062</td>
<td>7,793</td>
</tr>
<tr>
<td>Westgate</td>
<td>6,740</td>
<td>9,627</td>
<td>13,220</td>
<td></td>
</tr>
<tr>
<td>Dane John</td>
<td></td>
<td>8,410</td>
<td>7,835</td>
<td></td>
</tr>
</tbody>
</table>

(Local Authority Wards 1931-1981)

The pattern of the population change is a variable reflecting boundary alterations and some new development in the City; partly spurred on by the latter, the loss of population would tend to indicate a trend for housing with attendant schools to be located on the periphery.

Table 9

Parishes Outside the City

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hackington</td>
<td>245</td>
<td>247</td>
<td>718</td>
<td>1142</td>
</tr>
<tr>
<td>Blean</td>
<td>919</td>
<td>985</td>
<td>1695</td>
<td>1859</td>
</tr>
<tr>
<td>Sturry</td>
<td></td>
<td>3305</td>
<td>5614</td>
<td>5967</td>
</tr>
<tr>
<td>Harbledown</td>
<td>1517</td>
<td>1839</td>
<td>2334</td>
<td>2373</td>
</tr>
<tr>
<td>Sturry N</td>
<td></td>
<td>2456</td>
<td>2547</td>
<td></td>
</tr>
<tr>
<td>Sturry S</td>
<td></td>
<td>2539</td>
<td>2579</td>
<td></td>
</tr>
<tr>
<td>Blean Forest</td>
<td></td>
<td>2413</td>
<td>3001</td>
<td></td>
</tr>
<tr>
<td>St. Cosmos and</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Damian</td>
<td>985</td>
<td>1695</td>
<td>1859</td>
<td></td>
</tr>
</tbody>
</table>

The significance of these figures in Table 9, backed by those of Bridge/Blean overall, is that they illustrate the growth of population
in the periphery of the City. All the areas have increased in population in the period between 1971 and 1981. This is confirmed by Census material in Table 10.

Table 10

<table>
<thead>
<tr>
<th>Civil Parishes from Former Rural District (Bridge/Blean)</th>
<th>1971</th>
<th>1981</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adisham</td>
<td>466</td>
<td>583</td>
<td>25</td>
</tr>
<tr>
<td>Barham</td>
<td>1289</td>
<td>1239</td>
<td>-1.5</td>
</tr>
<tr>
<td>Bekesbourne</td>
<td>542</td>
<td>580</td>
<td>7</td>
</tr>
<tr>
<td>Bishopsbourne</td>
<td>205</td>
<td>234</td>
<td>14</td>
</tr>
<tr>
<td>Bridge</td>
<td>1269</td>
<td>1302</td>
<td>2.6</td>
</tr>
<tr>
<td>Chartham</td>
<td>3970</td>
<td>3646</td>
<td>-8</td>
</tr>
<tr>
<td>Chislet</td>
<td>659</td>
<td>670</td>
<td>1.6</td>
</tr>
<tr>
<td>Fordwich</td>
<td>210</td>
<td>177</td>
<td>-15</td>
</tr>
<tr>
<td>Hackington</td>
<td>718 (247)</td>
<td>1142</td>
<td>59 *</td>
</tr>
<tr>
<td>Harbledown</td>
<td>2334 (1839)</td>
<td>2373</td>
<td>1.6</td>
</tr>
<tr>
<td>Hoath</td>
<td>435</td>
<td>439</td>
<td>0.9</td>
</tr>
<tr>
<td>Ickham</td>
<td>438</td>
<td>426</td>
<td>-0.2</td>
</tr>
<tr>
<td>Kingston</td>
<td>469</td>
<td>518</td>
<td>10.4</td>
</tr>
<tr>
<td>Littlebourne</td>
<td>1292</td>
<td>1452</td>
<td>12.3</td>
</tr>
<tr>
<td>Lower Hardres</td>
<td>392</td>
<td>420</td>
<td>7.1</td>
</tr>
<tr>
<td>Patrixbourne</td>
<td>301</td>
<td>342</td>
<td>13.6</td>
</tr>
<tr>
<td>Petham</td>
<td>668</td>
<td>675</td>
<td>1.1</td>
</tr>
<tr>
<td>St. Cosmos &amp; St. Damian</td>
<td>1695 (985)</td>
<td>1859</td>
<td>9.68 *</td>
</tr>
<tr>
<td>Sturry</td>
<td>5614 (3305)</td>
<td>5967</td>
<td>6.2</td>
</tr>
<tr>
<td>Thanington Without</td>
<td>1045 (740)</td>
<td>1018</td>
<td>-2.5</td>
</tr>
<tr>
<td>Upper Hardres</td>
<td>307</td>
<td>332</td>
<td>8</td>
</tr>
<tr>
<td>Waltham</td>
<td>351</td>
<td>375</td>
<td>6.8</td>
</tr>
<tr>
<td>Westbere</td>
<td>869</td>
<td>775</td>
<td>-10</td>
</tr>
<tr>
<td>Wickhambreaux</td>
<td>463</td>
<td>459</td>
<td>-0.8</td>
</tr>
<tr>
<td>Womenswold</td>
<td>336</td>
<td>314</td>
<td>-6</td>
</tr>
</tbody>
</table>

N.B. 1961 figures in brackets

* Affected by University
This pressure of population growth has to be seen not only in relation to the City but also in relation to the Kent Structure Plan (1980). The plan has identified the City as an area of restraint. Indeed, the report of the panel for the D.O.E. stated that significant development on agricultural land would be unacceptable (1980). Clearly, the overriding need is for conservation - the City contains 13% of all listed buildings in Kent. This not only affects ground development but vertical too. Thus, the context is one of surrounding high quality land; the desirability to prevent coalescence of Canterbury with the adjacent villages and the desire that land within the built-up areas should be fully utilised. This last is being done by detailed studies of all the built-up area including new sites already agreed. Within this pattern of supply the demand has to be accommodated. The spatial pattern of demand will be discussed in due course. First of all, the effective demand is indicated in the District Plan which demonstrates that some 2800 houses need to be built by the end of 1991.

Table 11

The Requirement for Fresh Housing Land:
Canterbury and Bridge/Blean

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Demand</td>
<td>2,000</td>
<td>800</td>
</tr>
<tr>
<td>Housing Supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) Existing Housing Commitment</td>
<td>1,454</td>
<td>30</td>
</tr>
<tr>
<td>ii) New Housing Sites within the Urban Area</td>
<td>391</td>
<td>132</td>
</tr>
<tr>
<td>iii) Fresh Housing Land (dwellings)</td>
<td>155</td>
<td>638</td>
</tr>
<tr>
<td>Fresh Land Requirement (25 d.p.h.)</td>
<td>6 ha.</td>
<td>26 ha.</td>
</tr>
</tbody>
</table>

The demand can be assessed in the following way. The residents' demand is largely satisfied but the 1971 Census indicated that about 33% of the total number of jobs in the County Borough were occupied by persons who commute into the City and, if their housing needs were to be met, some 8,500 additional dwellings would be needed. In addition, local firms seemed to indicate in 1979 that they were expecting to increase the size of their operation and some 185 dwellings would be required (1978 - 83) to meet this demand. Housing is also required by the local authority for Council housing. In 1979 it had 2,180 applicants half of whom were in the Canterbury area. Moreover, student accommodation is a further special pressure requiring largely small units but with space at a premium it is not easy to find room within the existing urban area.

In terms of spatial location the map shows the area of possible development sites on the edge of the urban area. It highlights the spatial location of the fringe. Map B has annotated upon it some of the constraints listed below and the framework under which the District Council has to operate, viz:

1. High quality agricultural land to the east.

2. To the west and south of the By-pass high quality land.

3. Chequers Wood and Old Park to the east of an S.S.I.

4. The Stour Valley and flood plain to the north-east and south-west of the City must not be developed (requirement of the Southern Water Authority).

5. The land towards Sturry - the prevention of coalescence of the City and surrounding settlements.

6. The land to the north to be safeguarded for the possibility of the Broad Oak reservoir.
Possible Development Sites on the edge of the Urban Area

Map 8.
7. The area of steeply sloping land to the west of Harbledown because part of this is the Golden Hill site owned by the National Trust.

Quite obviously this approach limits the number of choices open for development. The possible sites are discussed briefly.

Area A: Stuppington Lane

This is to the south of the built up area i.e. south of the fixation line of the Old Elham Valley railway. This area is a contentious one because it represents the concept of the City Council wishing to expand to the By-pass whilst the County Council have stated in their Countryside Plan that it should not be used for development.

Area B: Harbledown

This is a triangular piece of land bounded by By-passes, the Canterbury and the Harbledown. This wedge is high quality land with orchards and hop gardens. Apparently it is only being considered because of the severance effect of the By-pass.

Area C: Neal's Place

This lies between Rough Common and the edge of the built up area. Kent College Playing Fields are to the north and the Harbledown By-pass to the south. This is not the highest Grade land (Grade III), although patches can be found of a higher quality. The area slopes steeply and changes would affect the landscape of the City. If it were fully developed there would be little open land between Rough Common and the City. Photograph No.2 shows this area in its context.

Area D: Blean and Tyler Hill

This is agricultural land but part of it would have been flooded if the large version had been accepted. However, development would not
HOUSING IN THE NORTH-WESTERN FRINGE

The impact of Housing on land is shown.

Part of the Harbledown By-pass is shown.

To the South a neighbourhood Secondary School.

PHOTOGRAPH No. 2.

Fixation lines in the South. Sources; Aerofilms. (Ref. No. 320370)
be encouraged because of possible pollution to a reservoir of any size.  
(See Photograph No.4)

Area E: Nackington

This lies between the Nackington Road, the urban area, the A2 and the By-pass. It is graphically illustrated in Photograph No.3 of the By-pass. There are similar constraints for the high quality agricultural land as in site A. In addition, this is also designated as part of the North Downs Area of Outstanding Natural Beauty. Again, it would not be considered were it not for the severance effect of the By-pass.

Area F: Old Park

The area is owned by 'M.O.D.' It provides training facilities and some married quarters. Any development would be dependent upon the release of land by M.O.D.

Area G: Hales Place

This is the most northerly of the recent estates. It is already large and further development would be detrimental to the landscape setting. (Some consider that recent development is already so). Possible pollution to the Broad Oak Reservoir could occur. Perhaps not realistically, it is stated in the District Plan that it could become an area for tourism and recreation in connection with the reservoir.

Area H: Whitehall Road

This is in the flood plain of the Stour north of the Wincheap Industrial Estate and south of the London/Thanet railway. At present, part is under pasture, part is being filled and restored after use for the By-pass. Development in the flood plain would obstruct natural storage and drainage of water. The site would not be considered were
### Table 12: Suitability of Areas for Development - Summary Table

**AREAS A TO J**

<table>
<thead>
<tr>
<th>SITES</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<td>3</td>
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<td>o</td>
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<td>x</td>
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<td>(acceptable level of development - in nos of dwellings)</td>
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<tr>
<td>Foul Drainage</td>
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<td>x</td>
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<td>2</td>
<td>1</td>
<td>6</td>
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</tbody>
</table>

**KEY:**
- x = Unsuitable for development
- o = Moderately suitable
- √ = Suitable for development

*Assumes industrial development
Area J:

This is between the Littlemarsh and Stodmarsh Roads. It is 2 miles from the City and so its links are tenuous. There has been some ribbon development including some nurseries but it is interesting to note that, although this was classified as Grade II land, it has been fragmented and not farmed to obtain the highest agricultural productivity.

The above assessments of these areas can be summed up in Table 12 from 'Choices and Strategy' (1981). There seem to be two types of constraint. The first is concerned with resources such as agricultural land and the landscape setting which are not renewable and, secondly, restraints which determine the level of investment in infrastructure. The County Structure Plan states that use of existing infrastructure is to be maximised so that new investment is to be minimised. A new 'isolated' housing area would necessarily demand all services, their adaptation, as noted earlier in the section, or even completely new installations.

Agriculture, as has been stated, comes to the edge of the city, this has provided fewer signs of dereliction than would have been expected. M.A.F.F. have stated that expansion should be on Grade III land but all non-agricultural should be developed first. A clear point in the District Council's evaluation has been the fact that sites would not be considered had it not been for the severance effect of the By-pass. It emphasises the impact of it and how important its exact location has turned out to be.

General considerations affecting sites A-J have been assessed. The Council states that the sites at Stuppton Lane, Harbledown and Nackington were generally unsuitable except Ridlands Farm and the triangles of land at each end of the By-pass. Two sites in particular
are worthy of closer examination because the District Council proposes their development.

**Ridlands Farm (Map 5)**

This comprises 14 ha. of land and would accommodate about 350 dwellings. The M.A.F.F. and the K.C.C. object because of the high quality agricultural land. It is classified as Grade 2 land and is included in an Area of Special Significance for Agriculture in the Draft Kent Countryside Plan. Because the former Borough Council had reserved this site for a secondary school and because it would not disrupt viable agricultural holdings (it was farmed under a tenancy agreement) the District Council suggested that this was a site for development. The farms are in fact both fragmented. The Council acquired the site on the assumption that it would be developed in due course. The commitment to development is believed by the Council to complete the urban area by the use of 14 ha. for housing up to the By-pass. The Council argue that this would be a logical and definite defensible boundary. This statement by the Council is particularly significant because it demonstrates the effect of the By-pass in encouraging development up to the new fixation line.

**Neal's Place Farm (Diagram 4)**

At Neal's Place Farm which lies to the north of the city the area for potential development is 19 ha. with a capacity for about 475 dwellings (Choices and Strategy, 1981). The figure has now been much reduced following representations from Harbledown Parish Council and the Southern Water Authority to 7.5 ha. for 150 dwellings. The Council argue (1981) that there are few constraints to development provided land to the east of Neal's Place Farm remains undeveloped. This is to preserve the landscape setting of the City because the area is on a slope above the Stour Valley. The prevention of coalescence between Canterbury and Rough Common is particularly an issue for local residents. There is a further problem of a narrow access road leading
to the site.

The interesting issue of the provision for housing is that every site has disadvantages. The policy of restraint is correct because in its absence this land would be allocated without due consideration. It is not only housing that has to be accommodated but also land for all the other competing demands. The problem that faces Canterbury is that because of the high percentage of the workforce of the city in professional services low density housing is required and space within the City is scarce.

Having stated this, there is little doubt that Twentieth Century development has been on the periphery of the City, exemplified at Thanington, Rheims Way and Hales Place above the flood plain and the Sturry Road industrial estate. It completely dominates the area with its maze of roads and housing of one type by implication, therefore, occupied by the same income group.

The housing policy can only be seen in relationship to other trends such as that of the population growth and of the deliberate policy of deflecting industrial growth to Ashford. Although in total numbers the demand for houses is relatively small, because of the constraints to development it could become a severe problem. The dilemma is that the solution may involve questioning traditional constraints outlined or the creation of new target boundaries. It is hoped that to meet these pressures that planners can suggest acceptable compromises which do not vitiate the main principles governing the City and its environs.

--- *** ---
The question was asked in the introduction whether transport in the fringe was different from anywhere else. In essence, it varies only in its form. With significant features, particularly in road and rail, Canterbury provides a good example for a study of it.

General Setting

Map 9 of the regional setting of Canterbury indicates the importance of its situation. At the hub of the East Kent road network it is the sub-regional centre for shopping and services, it is subject to traffic to and from other towns on the coast. With the M2 linking with the A2, Canterbury is also on the route for many large vehicles and cars travelling between London and the Continent via Dover.

A network of seven radial routes converge on the City centre. The A2 trunk route to the west and south-east is connected by a dual carriageway (Rheims Way) in perhaps half of a possible ring road; later the new By-pass takes a wider swing. Nevertheless, it is clear that the historic environment of the city suffers from the effects of very heavy traffic; in peak times there is overloading e.g. 8000 vehicles a day travelled through the medieval Westgate (Transportation Study, 1979).

Before examining in detail the means of transportation, it is worth considering that transport is normally regarded as increasing accessibility - true for origin and destination - but intervening places can in fact become more isolated, particularly where the line of communication acts as a fixation line.

The River

The Stour has been important in earlier days in the location of the settlement and in terms of transport. It has affected the street plan and directions of development. Though there have been a number of bridging points, the river has become a barrier because it is no longer
MAP TO SHOW THE REGIONAL SETTING OF CANTERBURY

- Primary Roads
- Secondary Roads
- Railways
- Rivers
- Motorways
- Study Area Boundary

Kilometres

MAP 9.
a major trade route and some of the adjacent land is in the flood plain, e.g. Wincheap or Broad Oak Road, so the Southern Water Authority objects to possible polluting development. In terms of present land use, however, its influence has been considerable if for no other reason than causing other forms of communications to run parallel to it. This is a major factor in shaping two areas at least of the fringe.

**Railways**

The Ordnance Survey Map of Canterbury (Map 12) shows something of the effects of haphazard railway development in the 19th century. There was the Whitstable Harbour line, subsequently there were the Faversham/Dover, the Ashford/Thanet and the Canterbury/Folkestone lines. Consequently, there were 3 stations in and 6 lines through the fringe of the time, as Diagram 6 emphasises. There are a number of features to note:

(i) The railway acts as a barrier. This can be seen in conjunction with the river N.E. and S.E. of Tonford Manor (Map 10 and Photograph No. 2). Operating on its own the Dover line through Bekesbourne creates a difference between the sides of the line in land use and, in time, alignment of fields. Fragmentation is caused as it cuts through irregular field patterns not oriented in the same direction. The result of the railway barrier is the creation of land too small to farm or too awkward a shape or having insufficient access. This can be seen in the area between the New Dover Road and the Railway. To minimise this the powerful landowners secured bridges, some approached by private roads e.g. Little Barton, Hode and Renville Farms in the southern fringe.

(ii) The second role the railway can play is acting as a constraint to the urban growth of a city. There are dangers that it can act as a target as well. In terms of expansion it is quite likely that estates would be built outwards until the railway, possible embankment or cutting, was reached and then development would cease,
Diagram 6.

RAILWAY - TANGENTS IN THE FRINGE

(DIAGRAMMATIC)

HISTORIC CITY
OF
CANTERBURY

Thanet

Whitstable (disused)

West Station

London

Ashford

Dover

East Station

South Station

Folkestone (disused)
due probably to the lack of access. An example of this is where the now closed Elham Valley Line (except where built over recently) seals very prominently the southern edge of Martyrs Field and the Dover line its northern one. Similarly, the nearby Wincheap Industrial site is shaped by the Dover line and the river, backed by the Ashford line; access is from two points on the main A28. Point Y on Map 13 illustrates both of these examples.

(iii) Unless there is a considerable amount of investment in the construction of complexes alongside the railway, development per se will not be encouraged, only at origin or destination. In the case of Canterbury, there are a number of small villages which have increased in size due to the Railway Halts e.g. Sturry and Chartham. The villages provide residential functions whilst the city provides work, so a daily commuting pattern is set up. In contrast, Selling and Bekesbourne in the middle of high grade land with little or no population nucleus and not served by main roads, were set up to transport agricultural produce. In the City itself areas round both the East and West Stations were developed as small complexes for loading or storing goods. These disused Warehouses and bunkers illustrative of an outdated function of the railways, now provide sites for re-development, particularly for industry.

(iv) In terms of effect on the fringe of railway use only 5% of journeys to the City were by rail compared with 10% by bus and 85% by car (Transportation Study). Of nearly 3000 rail passengers 40% are going to work. A considerable number are on journeys out of the area i.e. London (1.5 hrs) and Medway (0.75 hrs). There was, of course, use for education and shopping purposes from the villages, like Sturry, Chartham and Aylesham, indicating encouragement there of settlement expansion in the fringe.

To summarise briefly these 4 features, it can be said that the Railways certainly have a direct effect on land use by their physical presence and by only being able to be crossed at certain points. That
A MAP TO ILLUSTRATE THE RIVER AND RAILWAY
BARRIERS AT THANINGTON.

MAP. 10.
effect can still be seen, whether the railway is used or not, in the constraints or fragmentation caused.

ROADS

Traffic in the Fringe

The traffic which uses the roads in the fringe can be loosely classified into 3 types:-

(i) Through traffic requiring fast direct routes; it comprises cars (11% of all cars) Commercial (25%)

(ii) Traffic within the Canterbury Plan area - Cars (40%) Commercial (18%)

(iii) Sub-regional i.e. more than local - Cars (49%) Commercial (57%)

(Canterbury Transportation Study, 1976)

The following count completes this brief analysis by showing relative volumes on each of the roads:

Table 13

<table>
<thead>
<tr>
<th>Roadside Traffic Count in the Fringe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station Location</td>
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<tr>
<td>------------------</td>
</tr>
<tr>
<td>1 A2 Harbledown</td>
</tr>
<tr>
<td>2 A290 Pean Hill</td>
</tr>
<tr>
<td>3 Tyler Hill</td>
</tr>
<tr>
<td>4 Broad Oak Road</td>
</tr>
<tr>
<td>5 A28 Sturry Road</td>
</tr>
<tr>
<td>6 A259 Littlebourne Road</td>
</tr>
<tr>
<td>7 Bokesbourne Lane</td>
</tr>
<tr>
<td>8 A2 Bridge</td>
</tr>
<tr>
<td>9 B2068 Nackington Road</td>
</tr>
<tr>
<td>10 Cockering Road</td>
</tr>
<tr>
<td>11 A28 Thanington Road</td>
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</tbody>
</table>

N.B. Stations marked on Map II
Canterbury Transportation Study 1976
Study Area Traffic Flows

Map from Canterbury Transportation Study, 1976.

MAP. 11.
In considering the effects in the fringe it should be pointed out that most of the above routes have been there a long time but on to this framework has been added an enormous burden of heavy traffic with the following effects:-

(i) Roads helped to stimulate settlement, then the added result of decentralization as the more affluent moved away from the traffic into the farmscape and so broadening the settlement.

(ii) If a busy road crosses farm land, it can prove to be not a total barrier but certainly a hazard to the farmer in moving machinery or livestock.

(iii) Road access can stimulate all sorts of development such as housing, warehousing, garages etc. to affect the pattern of land use. The traffic generated, combined with the through traffic, leads to demand outstepping supply, consequently, the need for village by-passes becomes clear, for instance, at Sturry discussed later.

City Traffic

Although the problems of traffic in Canterbury have been notorious and are regarded by the Kent County Council as 'critical', this is not the place for detailed discussion of them but for seeing how it affects the fringe.

Transport was a function of Canterbury's urban growth, it was not the cause of it. The radial routes usually gave the initial opportunity for housing to be developed beyond the existing built-up area boundary e.g. Hales Place off St. Stephens Road or Barton Estate off the New Dover Road. Residential areas do generate traffic growth though not as much as industrial ones.

Both industrial areas are in the fringe close to the river - a barrier backed by the Ashford/Thanet Railway. The A28 is in close
parallel; it provides the main access, in fact, at Wincheap the only one. Manifestly, the extra traffic both in volume and type is not insignificant especially when related to the narrowness and the general inadequacy of the A28. The further pressure that increased development, particularly industrial, would have on the transportation system is one of the reasons for the restraint policy (County Structure Plan TP4).

As far as the City itself is concerned, its medieval streets are narrow with historic buildings on every side, yet the demands of an urban society for services not just in secondary but also tertiary activities have had to be faced. These demands have resulted in:

(a) The encouragement of re-location to outer areas of such industrial establishments as there were in the City.

(b) The encouragement of 'out of town' major stores in the fringe.

(c) No further Office development in the city, therefore directed to the periphery of the urban area.

(d) The acute parking problem using any available space tending to direct other demands elsewhere.

(e) The building or planning of relief roads in or close to the fringe, e.g. Rheims Way in the south and the Sturry radial in the north-east combined with a possible northern relief road.

(f) The building of the By-pass (discussed later) in the fringe to remove through traffic on the A2 London to Dover from the City.

In conclusion, the city traffic shows the transport processes, spurred by commercial ones, operating in a very unsuitable environment where preservation is important to the country. This aim can only be
achieved by involving the fringe.

**By-passes**

Both the section on traffic in the City and the one on traffic in the fringe concluded with demands for a Canterbury By-pass and a Sturry By-pass. The former has been built, the latter being planned. Both have or will have considerable effects on the fringe.

1. **Canterbury**

The location of the By-pass in the southern fringe which contains the highest quality agricultural land is controversial, but it was inevitable given the aim of linking the M2 with the A2 avoiding the City. The choice of exact siting, shown on Map 12, was a line mostly a little distance from the townscape - a matter referred to later. There have been a number of effects.

Map 13 indicates the amount of land lost to this new corridor. Examples of fragmentation can be seen at X, Y & Z. Fields are severed to leave narrow corners of land which will be difficult to farm effectively; instances of this can be found on both maps mentioned. Accessibility has been affected; some of the crossing tracks and roads have had to be provided with bridges and tunnels, otherwise there will be a degree of isolation reducing agricultural productivity. One farm, Stuppington, the central construction point headquarters, has been left with its farm buildings derelict. This analysis shows the effect on use of land for farming.

But the effects do not end there, for there is, and will be, a tendency to consider the By-pass as delineating a new edge to the urban area, a new target and, with through traffic only, a new fixation line. Three examples are cited:

(a) Site 81 (Map 12) is between Wincheap and the Nackington Road,
and what is more to the point, between the fixation line of the disused Elham Valley railway and the By-pass. The Town Map of 1972 showed this largely agricultural land as 'white' i.e. existing use to remain. Apart from the impact on the landscape setting, where, were it not for the By-pass and fragmentation caused, this agricultural land would not be considered for development.

(b) Site 84, west of Canterbury, is sandwiched between the Harbledown By-pass and the Canterbury one (Maps 12 and 14). A small tributary of the River Stour forms the eastern boundary. The land is in use for orchards and hops. The significant point is demonstrated by this quotation:

"This area structurally forms part of the area of high quality land to the west and is only being considered as a possible development site because of the apparent severance effect of the By-pass"


(c) Site 85 (Map 12) is in the flood plain of the Stour south of the Ashford/Thanet Railway and west of the Wincheap Industrial Estate (86). The By-pass forms the western boundary. Thus, the site is virtually surrounded by fixation lines. Although flooding is a possible problem, again "the area would not be considered for development had it not been for the construction of the By-pass, which separates it from the Stour Valley to the west." (Choices and Strategy).

From this, the By-pass is seen to provide a stimulus to development and infilling up to a defined line, particularly where the existing use of intervening land becomes less economic or practicable. It means that, because the effect is so important to the fringe, the exact siting is critical - should it be a long distance away from the
A MAP TO ILLUSTRATE THE OLD A2, HARBLEDON BYPASS AND CANTERBURY BYPASS JUNCTIONS.
Before discussing the question, it must be unequivocally stated that it is easy to draw lines on the map without appreciating all the factors such as subsoil and engineering problems. To link the M2 and Dover meant the By-pass had to be south of the City. Because of the high grade agricultural land, illustrated by Photograph No. 3, it could be said that it should have been as close to the built-up area as possible. Had it not been for the Hospital expansion and the further building at Martyrs Field the disused Elham Valley line could have been used in its entirety. If not, the argument continues, at least the southern starting point could have been close to the junction of the New and Old Dover Roads so that the farmscape would lose less and no target for development presented. As this line would have taken the present A28 crossing point, Winters, Ridlands and Stuppington Farms would have been preserved. This route would have been shorter than the chosen one but noisier to the built-up area in spite of possible sub-surface construction.

To have chosen the alternative of a line farther from the City would have necessitated the By-pass for Bridge to be to the south and not to the north of the village as it is. Thanington would have been within and it would have been in that area alone that the new road would have been sufficiently close to the built environment to create an attraction for development. However, a wider swing would have meant that the line would still go through valuable agricultural land in an area designated for its landscape beauty; in fact, probably more would have been lost in the process. Furthermore, because the roads and lanes tend to be radial from Canterbury this route would be liable to cross rather than run alongside them, in consequence more holdings and more fields would have been bisected.

To make a judgement, it would seem that the chosen route for the By-pass is betwixt the two extremes with the resulting disadvantages of which some have been described in detail. At least there would seem to
The Southern route cuts high quality agricultural land providing a new fixation line.

The City of Canterbury in its agricultural setting.

The high quality agricultural land of Orchards and Hops can clearly seen.

New By-Pass linking M2 with the A2 to Dover.

Source:
Ref: No. 59333(24A)
Kentish Gazette.
be a case for a much closer skirting of the townscape unless some room for expansion was deliberately given.

2. Sturry

In the summary of traffic in the fringe the need for a Sturry Bypass was mentioned, it stemmed from the demand of 18,000 vehicles per day in 1975 rising to an estimated 28,000 in 1996 (Transportation Study, 1975). Not only does this include the A28 through traffic and the industrial traffic from Vauxhall and Broad Oak Industrial Estates (see Photograph No. 1 in the section on Industry); but also the traffic (about a third of the total) generated by the expanding dormitory village of Sturry. This, therefore, is another major illustration of the process of transport operating in the fringe 3 miles from the City centre.

It is not relevant to discuss the effects on land use of each of the five suggested routes which are only in the planning stage. Some of the problems which may arise are similar to those outlined in the Canterbury By-pass discussion; some of them, however, would relate to the different context. Sufficient is it to declare that there will be major direct and indirect effects on land use when built and in the future. The opportunity has been taken to show the evaluation in Table 14 of each route as part of the planning process (N.B. the section on farm land loss). The recommendation for Route A results from the following calculation:

\[
\text{Benefit} \times 100 = \frac{\£620,000 \times 100}{\£4,500,000} = \text{Priority No. 14}
\]

Conclusion

This section began with describing the general setting of Canterbury for this is the framework on which the City was established and has grown. The very nature of a town indicates specialization and
<table>
<thead>
<tr>
<th>GROUP</th>
<th>INTEREST</th>
<th>UNITS</th>
<th>ROUTE A</th>
<th>ROUTE B</th>
<th>ROUTE C</th>
<th>ROUTE D</th>
<th>ROUTE E</th>
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<tr>
<td>1. ROAD USERS DIRECTLY AFFECTED</td>
<td></td>
<td></td>
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<tr>
<td>1.1 All road users</td>
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<td>(a) Reduction in casualties</td>
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<td>7</td>
<td>9</td>
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<tr>
<td>2. NON-ROAD USERS DIRECTLY AFFECTED</td>
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<td>2.1 Owners/occupiers of residential buildings</td>
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<td></td>
<td></td>
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<td>(a) Properties demolished</td>
<td>Number</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>1</td>
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<td>(b) Noise increase ≥ 3 dB(A)</td>
<td>Number</td>
<td>0</td>
<td>75</td>
<td>0</td>
<td>5</td>
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<td>(c) Noise decrease ≥ 3 dB(A)</td>
<td>Number</td>
<td>0</td>
<td>149</td>
<td>169</td>
<td>139</td>
<td>149</td>
<td>79</td>
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<td>(d) No. of properties ≥ 68 dB(A)</td>
<td>Number</td>
<td>231</td>
<td>124</td>
<td>131</td>
<td>186</td>
<td>176</td>
<td>180</td>
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<td>(e) No. of properties eligible for double glazing</td>
<td>Number</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
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<tr>
<td>(f) Increase in property values due to reduction in noise and other environmental aspects</td>
<td>£000</td>
<td>0</td>
<td>27</td>
<td>25</td>
<td>11</td>
<td>14</td>
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<td>2.2 Owners/occupiers of shops, commercial and industrial buildings</td>
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<td></td>
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<td>Number</td>
<td>0</td>
<td>2</td>
<td>2</td>
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<tr>
<td>(b) Noise increase ≥ 3 dB(A)</td>
<td>Number</td>
<td>0</td>
<td>1</td>
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<td>5</td>
<td>5</td>
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<tr>
<td>(c) Noise decrease ≥ 3 dB(A)</td>
<td>Number</td>
<td>0</td>
<td>13</td>
<td>14</td>
<td>8</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>2.3 Users of Public Open Space, Allotments</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>(a) Landtake</td>
<td>Ha</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
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<td>1.0</td>
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<td>Grade I</td>
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<td>Grade II</td>
<td>Ha</td>
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<td>2.0</td>
<td>2.0</td>
<td>0</td>
<td>2.6</td>
<td>0.8</td>
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<td>Grade III and IV</td>
<td>Ha</td>
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<td>1.2</td>
<td>1.2</td>
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<td>4.6</td>
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<td>(b) Farms severed</td>
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<td>4</td>
<td>2</td>
<td>4</td>
<td>0</td>
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<td>2.5 Occupiers and users of public buildings/schools</td>
<td></td>
<td></td>
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<td>(a) Buildings demolished</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
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<td>1.2</td>
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<td>3. THOSE CONCERNED WITH THE INTRINSIC VALUE OF THE AREA</td>
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<td>3.2 Listed Buildings</td>
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<td>(a) No. of Listed Buildings within 10 m. of the primary network</td>
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<td>4</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
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<td>4. FINANCIAL AUTHORITY</td>
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<td>4.1 Total Net Benefits</td>
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<tr>
<td>($000)</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Quantifiable in money terms</td>
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<td>820</td>
<td>406</td>
<td>513</td>
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<td>290</td>
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<td>4.2 Construction Cost</td>
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<td></td>
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<tr>
<td>Works and Land</td>
<td>£000</td>
<td>0</td>
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<td>5,100</td>
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<tr>
<td>= Benefit x 100</td>
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<td>Cost</td>
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<td>14</td>
<td>8</td>
<td>10</td>
<td>3</td>
<td>19</td>
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less self-sufficiency. It follows that the fringe assumes greater importance for supply of basic products and as a corridor for import and export of goods. Although there are other factors - political, military and religious - urban growth depends essentially on transportation. Improvements in it interacted with greater demand resulting in more growth. The major roads illustrate where development was needed. Explanations in terms of demand could be given for all Canterbury's radial roads. The influence of the Continent, whether in travel, trade or defence, is a powerful ingredient as indeed has London been both as an international and more local destination.

The natural communication line of the river has been discussed. It has been shown to be a barrier now not an artery of development but in both attributes it has shaped the layout of the nearby part of the built-up area. Today, its flood plain has an effect on land use by it being sacrosanct not for transport purposes but for health and amenity.

The railways, as Diagram 6 shows, have produced 3 tangents and a half of one (Whitstable line). Though only 2 are operative, the effect of one of the others can clearly be seen (Folkestone line). As a means of transport of goods the railways have greatly declined. But they do still provide the means for transportation of a significant number of people. Some of the effects on land use are lessened with time as over a century some holdings adapt. But the fixation lines are still there with bridges for transit over or under; in the case of the Ashford/Thanet line the conflict brought about by the changing techniques of transport is more than amply illustrated at three level crossings, especially the one at St. Dunstans. Railways, then, are not a dynamic transportation factor for change, they have already been through that stage.

The importance of the impact of transportation by road in the past, in the present and in the future, cannot be over-emphasised. The Transportation Study (1979) contains the forecast that by 1996 there will be an increase of 40% on 1975 traffic volume, of car
ownership from 0.27 to 0.40 per person and from 62% to 82% of households for whom there is a car available. Apart from heavy commercial lorries, the relief provided by the By-pass, it is thought, will have been expended within five years.

The key to coping with this is in effective management. There is no lack of possible proposals in the Transportation Study (1979) - Whitstable Road/Rheims Way link, Rail Sub-Surface Ring Road (North), Sturry Radial, Wincheap Radial and the Sturry/Military Road Line, to name the major ones. But these are largely within the city's built-up area and affect rural-urban land use by the fact that they do take up land and in some cases that they do require demolition of property; consequently, there is that much more pressure on fringe land to provide the substitute. This is seen in the completion of the Canterbury By-pass shown to have a major impact on land use. The Sturry By-pass could have to a lesser extent a similar impact. What has not happened in the case of Canterbury because of its agricultural context is that industry has been set up because of its transport facilities. The trading estates at Wincheap and at the Broad Oak/Vauxhall Roads grew up because they were areas which were less desirable for residential development and less obtrusive; there was for both somewhat unsatisfactory access to the A28. It is, of course, true that sub-regional warehousing developed because of the radial routes to East Kent. The effects of transport on Canterbury's valued environment are regarded as so crucial that the County Structure Plan has laid down the policy of 'no development incompatible with the existing transport facilities'. In other words, transport is one of the determining factors in a policy of inhibiting further development within the City or in the fringe. It is, though, a factor which cannot be repressed altogether so that the rural-urban fringe is and will be under continual pressure. Diagram 7 attempts to summarise the effects of this.
Diagram 7

Diagram to Show the Effect of Transportation on Land Use in the Fringe

MAJOR Bypass Motorways etc.

MAJOR 'A' Roads

RAILWAYS

Effects on Land Use

- Encouraging Development
- Increasing Accessibility Trading Estates
- Lines of Fixation
- Some Development (linear)

Fragmentation of Holdings

Decreasing Accessibility

Decline of Agriculture

Physical Loss of Land
OTHER SERVICES IN THE FRINGE

Geographers, such as L. Wirth (1938), have written of Urbanisation as a 'way of life' indicating that it is something distinctive from normal living. Certainly there are particular features of the urban environment which are peculiar to it in scale and form. One of these is the provision of services. Services can be defined as 'performing a vital function to the community'. In the 20th Century many of the services are taken for granted and almost disregarded because of this. The demands from a sophisticated society mean that little is thought of the cost in both social and economic terms, for example, water, sewage, refuse, gas and electricity. Such utilities, though, have earned themselves the description 'bad neighbours' i.e. in spite of being essential, people, on the whole, particularly the middle class, do not wish to live near their installations. It is especially important to note that the fringe, the area between town and country, seems to be the place where many of the vital services have either been located, zoned or even 'dumped'. The significance of this has probably grown, for a small town or city could put a few obnoxious activities on the outskirts and, because of their scale, they were hardly noticeable. Today, demands not only from a larger population but also from an increased individual consumption mean more land. Land is a valuable, flexible resource but, nevertheless, choices have to be made and priorities established. The following study shows some of the choices facing Canterbury.

The County Structure Plan stipulates any permitted development of all kinds should make maximum use of the existing infrastructure and thus avoid heavy capital expenditure.

Water

The 1973 Water Act created a single 'City region' amalgamating urban and rural needs. In the fringe and farmscape 'clean' water is stored in tanks and reservoirs which are unobtrusive except for the Water Tower at the top of St. Thomas' Hill.
At present supply and demand are normally just in balance but occasionally not. In emergency Mid-Kent Water Board provides extra water for both Canterbury and Folkestone areas. Increased extraction from aquifers could lead to saline intrusion while sizeable extraction from the river would reduce the flow for downstream irrigation and for carrying coalfield effluent. Therefore, the Water Resources Board stated in 1973 that new supplies were needed. In the absence for obvious reasons of a national grid local resources must be developed. Hence the Broad Oak reservoir scheme.

The Broad Oak reservoir proposal, shown on the reconstructed Map 15, has been to a protracted Enquiry. It was eventually rejected in the form submitted mainly because of the implications of multiple land use in a rural area. It is to be re-submitted with modifications. It would seem that eventually there will be a reservoir at Broad Oak for East Kent just as Bewl Reservoir serves West Kent, and, although not yet approved, there are implications for the fringe.

The site shown is in a 'dog-leg' shaped valley. It runs from west to east and is two to three miles north-east of the Cathedral. McRae and Burnham describe the area as one of "London clay with plateaux and low hills sometimes gravel capped and a fringe of underlying sandy beds" (1973). The landscape is pleasant without being outstanding and already there is a set of double pylons running across the land.

656 acres of land would be flooded and a further 200 were to have been bought to control the fringes. The aerial view, Photograph No.4, shows the land which would be affected. It will be seen that the farmland is surrounded by wooded areas which are not very productive.

The detailed site Map 15 shows the proposed land use. The main feature is the amount of space devoted to water amenities - fishing, rowing, canoeing, sailing and sub-aqua. There would be a nature conservation area, walks around the reservoir and facilities for riding. If this is an attempt by the Water Board to demonstrate the
LAND USE MAP OF PROPOSED RESERVOIR.

Source: Broad Oak Reservoir Scheme Background and Summary. MKW/SWA Aug., 1976.

MAP. 15.
multi-use of land, it is debatable whether such an objective is desirable in a rural area. It does seem somewhat of a distance from the original purpose of providing water.

Although the above seems to be attractive, there are penalties in terms of access roads, parking and club facilities. There would be increases in the amount of traffic at Tyler Hill and Broad Oak. However, there may not have been adequate provision to cope with this in rural area. Following the Enquiry, the Secretary of State was concerned with the impact on this particular area of such a major recreational facility.

The Water Board claims that the buildings for the reservoir would be comparatively inconspicuous i.e. below the ridge of the valley in spite of the water treatment works being larger. Most of the water would come from the River Stour and this could affect farmers who use it for irrigation, it could also affect the dispersal of coalfield effluent. This has been investigated by the Hydrological Institute at Wallingford.

The domestic consumption of water two thirds of the total demand) was 38 gals. per head in August 1976 in the Mid-Kent Water Area. It was increasing by 3% p.a. Non-domestic use is increasing between 2.5 - 3% per annum. The full capacity of Broad Oak of 21 mil. galls. per day would be needed by the year 2000 (Water Resources Board Report, 1973). In 1975 the National Water Council confirmed the need for Broad Oak to begin in the early 80's. There can be little doubt that there is a need for water, as will be demonstrated when a modified scheme is re-submitted. The capital expenditure would be £18.75 million at 1976 prices. This would be in the fringe of the City to satisfy need and permit modest development. The present scheme would put pressure on existing land use due primarily to loss of land and and the planned recreational use. There will be both costs and benefits to the community but because it is close to University land the opportunity for large scale development will be limited. Furthermore, housing and
industry will not be allowed to develop above Hales Place because of the danger of pollution; this is in parallel with another constraint imposed by the needs of water and accepted by the District Council that further development of land adjacent to the river would be detrimental to flood flows and flood water storage according to the Southern Water Authority. It is difficult to assess the cost and benefits of the scheme but certainly any form of E.I.A. (Environmental Impact Assessment) would indicate that the impact would be considerable.

However, before it is dismissed out of hand the proposal has to be balanced with the demand for water. Already the delay in implementation has led to permission, albeit temporary, for further river water extraction. That demand for water can only be satisfied in the Canterbury fringe if the objections to other sites or other methods are accepted. Broad Oak with its clay base is one of the few areas where it is possible for such a reservoir to be practicable.

For disposal of 'dirty' water/sewage the Works are based on the Victorian Sewage Farm sited on the Sturry Road in the fringe on the edge of the former borough area. Technical developments involving new processes in new buildings have ensured a flow of very satisfactory purity into the nearby river. Together with the various installations of the former Bridge/Blean R.D.C. the processing capacity is adequate for all foreseeable needs although, of course, major development (which is not envisaged) would require increasing the infrastructure i.e. transmission pipes. In short, the impact on the fringe is now confined to the land for the Works and the 'bad neighbour' characteristics.

Gas

North Sea gas is supplied from Bacton in Norfolk via Shorne, Nr. Rochester. A large underground pipe for East Kent circles Canterbury. Inconspicuous governors reducing the pressure control the flow to the various areas of settlement. A reservoir gasometer, not too obtrusive, is sited at Wincheap; together with the Vehicle Depot off the Sturry
Road it provides the only visible impact on the fringe. Of importance is the fact that an increased demand of 20% could be supported although it must be pointed out that the pattern of underground pipes was constructed to support development commercially, not symmetrically, so sizeable expansion at Hersden, for instance, would require further investment.

**Electricity**

There is no generating unit in East Kent. Coming from the national grid it is transmitted by overhead cables on pylons. The power is reduced in steps from 400 K.V. down to the mains supply in the home. This involves a series of transformers - 100 indoor, 749 outdoor and 816 incorporated with poles in East Kent - and subsidiary sets of smaller cables with pylons except where put underground in the built-up areas. One of the major transformer stations is located in Canterbury's fringe (see Photograph No. 1), it is close to the Sewage Works, Abattoir and Gas Board Depot.

In considering the impact on the fringe there are three points to make:

1. Visual - besides the main Transformer station there is the overhead transmission on pylons. But, as Table 15 shows, there is no feasible alternative.

**Table 15**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Overhead</th>
<th>Underground</th>
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</thead>
<tbody>
<tr>
<td>Cost £1,000 per m</td>
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</tr>
<tr>
<td>132 KV (Double)</td>
<td>70</td>
<td>700</td>
</tr>
<tr>
<td>33 KV (Double)</td>
<td>30</td>
<td>200</td>
</tr>
<tr>
<td>33 KV (Single)</td>
<td>20</td>
<td>110</td>
</tr>
<tr>
<td>11 KV</td>
<td>10</td>
<td>30</td>
</tr>
</tbody>
</table>

(C.E.G.B. Table provided by S.E.E.B, Thanet.)
(2) Land requirement - this comprises the cumulative loss of numerous small plots which also impose limitations on land use in the immediate vicinity and under the cables.

(3) Further development - the flexibility of electric power is significant because of its ability to support development anywhere.

Education

There are few cities which, in proportion to size, have quite the number of Educational institutions as does Canterbury. The variety ranges from all types of State Schools to the oldest of the Public Schools, from Primary to Secondary, to Technical and, nationally, to a College of Education and, finally, a University. By definition of their requirements they need larger space for building and playing fields. These requirements are undoubtedly their main significance for the fringe. Where there are playing fields there can be no building or development; consequently, their spatial distribution is of particular importance. Table 16 and Map 17 illustrate this. The older institutions are located in the City and do not directly concern the fringe except where there is ownership of playing fields, e.g. King's School.

The fringe has some sizeable areas of educational land as will be seen by going clockwise from the north as the Map of Land Use (Map 16) and Photograph No.4 show. There is St. Edmunds, a clerically based Public School, with extensive playing fields, the University of Kent occupying a considerable area - some 360 'fringe' acres on the southern slopes of the city's northern crest, the crest itself and beyond used for a park, playing fields, academic and residential blocks. There is then at St. Stephens Archbishop's Secondary and St. Stephen's Primary Schools, both post-war. The new Technical College, Technical Schools, and Secondary Schools will be found east of the New Dover Road. In the south are the Simon Langton Girls' School, re-sited from the historic centre, and the new St. Anselm's R.C. Secondary School, both front on to the Old Dover Road. Further out in a possible development area is
THE UNIVERSITY AND THE SURROUNDING AREA

The Northern Fringe with the Coast in background.

The main campus of the University

The impact of Educational Institutions St. Edmunds and the University i.e. the playing fields and open space.

New University Road

PHOTOGRAPH No. 4.

Orchard land on the slopes of the University.

Source: Aerofilms ref. No. 320529.
Land Use

133.

Agriculture
Residential
Industrial
Commercial (Shops, Offices, Services)
Education and Recreation (Inc. Hospitals, Open Space etc.)

MAP 16

Source:
Canterbury Transportation Study
1976.
the Simon Langton Boy's School, (land adjacent for a second new School is now not going to be used for this purpose); this has also been re­sited from close to the High Street. Further west can be found the Orchards School at Nunnery Fields and Wincheap Primary (N.B. the extra land at Hollow Lane for it has been released.) Across the river there is the London Road Estate with Secondary and Primary Schools, both seen in Photograph No.2. The ring is completed by Kent College and its grounds. Outside it, Milner Court, the Kings's School Junior School, occupies a significant site on the Canterbury side of Sturry.

This spatial pattern does have a number of possible repercussions for the area. The vast amount of land which the institutions hold means that they act as a barrier to development. This has implications not only for the City but, also, for the nearby villages.

Some of the schools which have been built in the post-war period represent the overall decentralization of population. As population has moved outwards so there has grown up the 'Estate' schools e.g. London Road. The older institutions in the City are now surrounded by developments e.g. King's School and Christ Church College, especially the former's Playing Fields (see Photograph No.1).

Another reason for educational pressure on the fringe has been the tremendous change in a number of aspects. In addition to the post-war birth rate increase, the statutory school leaving age has been extended twice since 1945; the curriculum has been broadened in range and specialised in detail; the all age School has been replaced by separate Primary and Secondary ones. In short, 'Secondary Education for all' required not merely a new pattern of organisation in larger units but also buildings to match together with surrounding or accessible playing fields. These requirements cannot be met within the built-up area.

The recent establishment of a University reflects on a more sophisticated plane the developments in education and has the same basic effect on the fringe although greater in size and scope partly
### Educational Establishments in The Fringe of Canterbury
(Clockwise from the North as in the text)

<table>
<thead>
<tr>
<th>Name</th>
<th>Acreage</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Edmunds</td>
<td>o</td>
<td>Independent. Transferred from London 1855</td>
</tr>
<tr>
<td>University of Kent</td>
<td>Δ</td>
<td>Post-War foundation</td>
</tr>
<tr>
<td>Archbishops C of E Secondary</td>
<td>Δ</td>
<td>Post-War foundation replacing 11+ pupils in old City School</td>
</tr>
<tr>
<td>St. Stephens Junior and Infants</td>
<td>Δ</td>
<td>New schools for developed area</td>
</tr>
<tr>
<td>Parkside Primary</td>
<td>-</td>
<td>Post-War for Sturry Road Estate</td>
</tr>
<tr>
<td>Barton Court Girls Grammar</td>
<td>x</td>
<td>Relocated further into the fringe</td>
</tr>
<tr>
<td>Geoffrey Chaucer</td>
<td>x</td>
<td>Relocation into the fringe</td>
</tr>
<tr>
<td>Technical and Art College</td>
<td>x</td>
<td>Both relocated further into the fringe</td>
</tr>
<tr>
<td>Simon Langton Girls Grammar</td>
<td>x</td>
<td>Relocated from the City Centre</td>
</tr>
<tr>
<td>St. Anselms R.C. Secondary</td>
<td>Δ</td>
<td>Post-War foundation to take 11+ Catholics from city</td>
</tr>
<tr>
<td>Simon Langton Boys Grammar</td>
<td>x</td>
<td>Relocated from City Centre Site for further expansion</td>
</tr>
<tr>
<td>Orchards Special School</td>
<td>Δ</td>
<td>New</td>
</tr>
<tr>
<td>Wincheap Primary</td>
<td>Δ</td>
<td>Post-War. Extra land at Hollow Lane</td>
</tr>
<tr>
<td>Frank Hooker Secondary</td>
<td>Δ</td>
<td>Post-War in London Road Estate for city's 11+</td>
</tr>
<tr>
<td>Beauhearn Junior and Infants</td>
<td>Δ</td>
<td>Post-War</td>
</tr>
<tr>
<td>Kent College</td>
<td>o</td>
<td>Independent. Founded 1885</td>
</tr>
<tr>
<td>Junior School at Harbledown</td>
<td>o</td>
<td></td>
</tr>
</tbody>
</table>

In addition, King's School have playing fields at St. Stephen's (o).
HAP TO ILLUSTRATE THE LOCATION OF SCHOOLS IN THE FRINGE.

KEY:

$x-x$ RELOCATED

$\Delta$ NEW SCHOOL POST-WAR

$\bigcirc$ PRE-WAR SCHOOL

MAP 17⅝
because of the need for residential facilities. A glance at Map 17 will illustrate the very important position that education now occupies in the City's fringe, though it can be said that the 'expansionist phase' is over for the time being as preparations for implementing the Comprehensive Education Circular of 1965 are apparently abandoned e.g. sites at Nackington and Hollow Lane.

Health

There has been a long history of health care in the City. The original Kent and Canterbury Hospital was built in Longport in the grounds of St. Augustine's Abbey close to the then fringe. 19th Century society demanded isolation hospitals and one was built in the Stodmarsh Road close to the Bridge/Blean Isolation Hospital. They were both on the periphery of local government areas. The 19th Century workhouse at Nunnery Fields in the fringe has become a hospital for the elderly. A large institution at the top of St. Martin's Hill on the edge of the urban area was built as the East Kent Asylum. As there are quite a number of hospitals, it can be suggested that there are more than for an average city of comparable size. The unpopularity or 'bad neighbour' characteristics as much as land requirement led them to be sited in the fringe.

A further factor affected demand and therefore size of installation. Canterbury in terms of health has become the centre for East Kent. Local hospitals in nearby towns have been closed or services reduced to focus on the Kent and Canterbury site. The Kent and Canterbury moved in 1936 to a site on the fringe between the cricket ground and railway. It now occupies quite a considerable area because it has incorporated the disused railway land and a section of an orchard which was part of the Ridlands Farm holding. Also on part of the Ridlands Farm orchard land fronting the Nackington Road there has been a new development with the building of a controversial private hospital; controversial because it seems to be in a position demonstrating the City Council's wish to build up to the By-pas. The
impact is largely one of space. Map 16 shows that hospitals as well as schools occupy sizeable areas on the edge of the built-up area. It has been suggested that Canterbury is unusual in the number. Both that and the location are functions of its past as well as being reflections of the present.

Miscellaneous Utilities/Services

Daily 20th century living could provide a long list. The most important one, however, is the M.O.D. holding of a large wedge of open land which extended almost to the City Walls. Established in the 1790's this acted as a barrier to development (see Map 16). Not unimportantly, changing defence needs permitted the release of some land and buildings nearest the built-up area. In addition to housing, the large new City Council Offices and the new Post Office Sorting Depot are located on this released land. What has been a barrier is now providing space for development near the City so preventing more agricultural land loss farther out.

Of the others worthy of mention are the fringe or former fringe siting of the Cattle Market, Abattoir, Prison, Cemetery, Crematorium (at Barham), the Police Traffic Depot and British Telecom with its two office blocks and separate vehicle park.

Summary of Services

To summarise the process of services operating in the fringe it can be seen that Education holds a very prominent and significant position on the Land Use Map (Map 16). Besides the new Secondary Schools, there are the Independent Schools and above all the University, all with extensive adjacent Playing Fields. Health, too, occupies not only some older sites (some originally in 'the country' because of bad neighbour characteristics) but also some new sites in the fringe for the expanding demand for viable scientifically advanced treatment which requires space.
Of the utilities the source of some of them is from a regional or national network so there is transmission through the fringe. A most important impact would be made by the Broad Oak Reservoir to ensure an adequate water supply. Some have unpopular installations and some are more intrusive than others but all can accommodate further development.

Quite clearly, although services have been investigated separately, the essential aspect is that linked together they form a need to take a holistic view to understand this in terms of an urban system and in the context of the pressures, already discussed, of housing and population.

--- *** ---
The aim of this section is to consider the role that recreation plays as a process for land use change in the rural-urban fringe of Canterbury. Two points need to be made. Firstly, the study of recreation needs to be put into some overall perspective. Secondly, it will be shown that in terms of recreation Canterbury is not necessarily typical. Certainly, it does not show the same characteristics as can be seen in some of the Midland County conurbations. Importantly, the problems do not seem to be so acute in degree. Most of the studies of recreation can be divided into three areas - namely, demand, supply and interaction. A further distinction can be made between passive and active recreation and formal/informal. The key point is that this provides a suitable framework on which a study can be undertaken.

The concept of the demand study is to measure the present pattern of demand and also perhaps to predict any changes within the spatial pattern. The Countryside Commission defines recreational demand as "the use (or consumption) of existing facilities either now or in the future".

The above definition suffices for this study and it is unnecessary here to discuss this in terms of a more theoretical base of expressed and latent demand. However, what is relevant is to distinguish between formal and informal recreation as shown in the Venn diagram for Canterbury. (Diagram 8).

Measuring the pattern of demand, in fact, is not always simple and straightforward. Though it would be thought that in reality it could be determined by the statistics indicating how often a facility is being used, it has to be pointed out that use does not necessarily present a direct correlation with potential demand. In contrast, a different approach so as to give as full a picture as possible is to consider the aspect of supply. In so doing, at least, something
Diagram 8

Diagram to show the interaction of formal and informal recreation in Canterbury

INFORMAL

WALKING
INFORMAL GAMES
SITTING
PUBLIC OPEN SPACES

ANGLING
SAILING

CLUB SPORTS
(HOCKEY, CRICKET
AND FOOTBALL)
SWIMMING

FORMAL
tangible - the present available resources - is being measured. Although this should be relatively easy as far as formal activities are concerned, it is much less so for informal activities.

In practice it is not perhaps viable to split a consideration of recreation rigidly into a supply and demand study but to combine the two. Moreover, the interaction between space users is often one of conflict e.g. between farmers and recreationist, but this is also further complicated by conflict of use between the recreationists themselves. From the point of view of this study the questions are as follows:-

(1) What and where are the resources for Recreation?

(2) What impact does it have on the land use within the fringe?

(3) Where is future provision to be located?

These questions are not only relevant at local level but also at national level.

Features of Canterbury

Davidson (1976) wrote that the fringe seemed to be an ideal location in theory for developing a variety of opportunities for recreation and sporting activities. There are, however, a number of distinctive features to be taken into account - its location, the demographic make-up of the District and the economy of the city.

Canterbury has the coastal towns between 7 (Whitstable) and (Dymchurch) 20 miles away. None of them is very large e.g. Folkestone (47,000), Thanet in three separate towns totalling 110,000. The remaining inland area contains Ashford (14 miles) with a growing population of 30,000 and Faversham (9 miles) with 16,000.
Three points need to be noted:

(1) There is access to the coast in three out of four directions (Photograph No. 4 shows the North).

(2) Between Canterbury and other towns there is a large proportion of farmscape.

(3) No town is sufficiently large or close to affect the fringe of Canterbury in a physical sense.

Canterbury itself has a population of about 61,000 (with the former Bridge/Blean District). Although this is one of the largest figures, it has not been designated a growth area in the County Structure Plan which concluded that conservation and restraint must determine the city's future. Indeed, the population would be expected to fall by 1991 if it were not for net migration making an estimated total increase to 65,000. It ought to be said that from the 1971 Census Canterbury had 15.2% over 65 and Bridge/Blean 16% (Great Britain 12.9%); the 0-19 figures were Canterbury 30.0%, Bridge/Blean 29.9%, Great Britain 31.3%. This indicates a greater proportion of old people than the national average. (Summary Report of Survey Canterbury District Plan; 1979).

A further special feature applicable to Canterbury is that it did not experience in the nineteenth century heavy industrial growth requiring mass labour. The pressure for recreation does not, therefore, include to the same degree many of the factors associated with large populations and industrial growth such as those in the East Midlands (Beynon & Wetton, 1979).

Many of the recreational facilities of the City have already been established in the areas which were once the fringe and they act as a buffer to further development, although some have been engulfed already. There has been a considerable measure of provision but it has
been difficult to supply much land due to the farmland near the city.

The final point on Canterbury in general is that it is placed within the context of the Kent Structure Plan (1980) which stated that:

(a) demand should be met, provided that its impact on the countryside and built environment was minimised

(b) formal recreation should be located in or adjacent to the urban area not in the open countryside and should serve the largest possible population

(c) informal recreation should be directed to specific areas with the least environmental objections and with accessibility by public transport as well as by car

(d) demand could provide a beneficial use for derelict, despoiled or underused land.

What and Where are the Resources for Recreation?

Formal recreation is provided by a variety of sources e.g. the City Council, Sports Clubs, Firms, Education and Youth Clubs. Half of these are available for hire but only the City's on a regular basis. Those owned by Sports Clubs and firms are restricted to Members. The total amount of playing fields which comply with National Playing Fields Association criteria excluding schools is 41.5 ha. Based on its recommended standard of provision for playing fields in urban areas of 4 acres (1.62 ha.) per 1,000 residents, (Choices & Strategy, District Plan, 1981), there is a requirement of 59.5 ha. Thus, there is a shortfall of 18 ha., if national standards are to be met. However, the overall figure does disguise changes which have taken place at the local level e.g. 3.9 ha. were lost at the Sturry Road recreation ground for educational purposes, the loss of Thanington recreation ground to the By-pass will be made up by using adjoining
fringe land to the north. Canterbury Hockey Club has developed 4 ha. of fringe at Polo Farm, Littlebourne Road. The real point is whether the provision is a response to need. The assessment of need contains an element of subjective appraisal. The City Council in their report on Choices and Strategies (1981) have drawn up a suggested priority of sports facilities in relation to need (Table 17). A more detailed and penetrating analysis of demand is shown in "Sports Complex Feasibility Study Part I District Recreation (1976)". Some of the sports are indoor and are not directly relevant to the fringe area. However, if a joint Sports Complex were proposed and located outside the built up area, it would be very relevant. The following is a brief account in order to assess some of the functions in terms of supply and demand.

The demand for playing areas is high in Canterbury as cricket, football, tennis and athletics all have a shortage of playing space. In cricket there is above average activity and the Council estimate that there is a shortage of some 10 ha. Although football does not suffer as much, many of the pitches are overused and in poor condition. This is also true of tennis. Reference to Table 17 indicates the range of sports which take place, the significance being that many of them take place in fringe locations e.g. there are four Riding schools (two in the southern farmscape) and a sizeable amount of informal riding. A further example can be found with motor cycles - the Speedway which is going to be moved from Kingsmead and has been offered a fringe location at Marsh Farm.

Water Based Sport

This has significance because of the result of gravel workings producing lakes in the Stour valley. This has given rise to a number of sports. Angling is a regular pastime with some 2,500 people fishing in inland waters compared with 1,300 on the coast. There is demand for more water to be made available; this is also true for Canoeing and swimming facilities. Indeed, there is demand for a second swimming pool.
Suggested priority that should be attached to the provision of sports facilities in relation to need in the plan area.

<table>
<thead>
<tr>
<th>SPORT</th>
<th>SUGGESTED PRIORITY IN RELATION TO NEED FOR FURTHER PROVISION</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchovy</td>
<td>High</td>
<td>Provision could be improved by increasing use of U.K.C. track.</td>
</tr>
<tr>
<td>Athletics</td>
<td>High</td>
<td>Standard of provision will be improved if sports complex is built.</td>
</tr>
<tr>
<td>Badminton</td>
<td>High</td>
<td>Standard of provision would be improved by Prince of Wales Youth Centre.</td>
</tr>
<tr>
<td>Bowls (Indoor)</td>
<td>Medium</td>
<td>Adequate provision at Polo Farm.</td>
</tr>
<tr>
<td>Bowls (Outdoor)</td>
<td>Low</td>
<td>Adequate provision existing.</td>
</tr>
<tr>
<td>Boxing</td>
<td>High</td>
<td>Adequate provision could be improved by a sports complex.</td>
</tr>
<tr>
<td>Cricket</td>
<td>High</td>
<td>ICE SKATING Medium</td>
</tr>
<tr>
<td>Football</td>
<td>High</td>
<td>WEIGHT TRAINING Medium</td>
</tr>
<tr>
<td>5 Aside</td>
<td>High</td>
<td>WEIGHT LIFTING No further provision necessary</td>
</tr>
<tr>
<td>Hockey</td>
<td>Low</td>
<td>CLIMBING Medium</td>
</tr>
<tr>
<td>Rifle Shooting</td>
<td>Medium</td>
<td>LACROSSE No further provision necessary</td>
</tr>
<tr>
<td>Rugby</td>
<td>Low</td>
<td>GYMNASTICS Medium</td>
</tr>
<tr>
<td>Squash</td>
<td>High</td>
<td>FENCING Medium</td>
</tr>
<tr>
<td>Table Tennis</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Tennis</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Golf</td>
<td>No further provision necessary</td>
<td></td>
</tr>
<tr>
<td>Swimming</td>
<td>No further provision necessary</td>
<td></td>
</tr>
</tbody>
</table>

Comments:
- Provided by private enterprise.
- As a public leisure facility rather than a sporting facility.
- As a public leisure facility rather than a sporting facility.
- No suitable water area in Canterbury.
- As a public leisure facility rather than a sporting facility.
- Climbing wall recently provided at U.K.C.
- Will be provided for in a sports complex.

Source: Choices and Strategy, 1981.
Farm Based Recreation

This is very much symptomatic of a fringe location as it caters for the urban clientele in a somewhat false sense of rurality. Bull and Wibberley have undertaken a 'Study of Farm Based Recreation in South East England (1976)'. Based on the distribution of 1,000 questionnaires to farmers, it considered recreational activities connected with Caravan sites, farm accommodation, Horse riding, Fishing, Shooting etc. It utilizes a formula put forward by Cracknell (1967) for calculating living space i.e. an area surrounding a settlement within which recreation can be absorbed, it is:

\[ R \text{ (radius) miles } = \sqrt{\frac{M}{50}} \quad M = \text{Population} \]

Obviously this is only a very general guide and probably somewhat out of date with increasing car ownership. If applied to Canterbury, it would give a radius of about 5 miles.

From Bull and Wibberley (1976) it is clear that farm based recreation has these advantages:

(i) it provides an activity without necessarily taking land out of agricultural use

(ii) by allowing controlled use of the countryside conflict between urban and rural dweller is reduced by the resulting mutual understanding and education

(iii) the farmer is able to supplement his income - a bonus or compensation for farming in the fringe.

Behind the whole of this is the issue of the concept of multiple use of land, one which merits a greater role in planning policy.
Informal Recreation

Informal recreation is probably even more difficult to ascertain in terms of supply and demand. However, one or two studies by the Council have tried to assess this. One such study undertaken was the amount and distribution of children's play space. It showed an awareness by the Canterbury Authority of the need to take into consideration housing development and recreational needs. There appeared to be a marked deficiency in areas of play space in Dukes Meadow, Rough Common, South Canterbury and Military Road.

Amenity Open Space

Amenity open space relates to the provision of parks, gardens and other open space for informal recreation. There are no nationally recognised standards as it is assumed that local needs will differ with the character of the town in question. Canterbury does have open spaces within the Old City e.g. 5 ha. within the Cathedral Precincts, the Dane John Gardens and a number of burial grounds. The River Stour, now less polluted, has had development discouraged on its flood plain. The City Council originally had a policy of providing gardens and walks along the banks. This was extended in 1973 into the concept of a Riverside Walk. This is expected to be incorporated into the new District Plan. It requires a further 2.5 ha. to be bought by the Council.

There are four areas of amenity open space in the fringe:

(1) Larkey Valley Wood - 43.5 ha. of beech wood towards Chartham on the Cockering Road. (Conflicts here with conservationists, picnickers and unofficial motor cycle scrambling - no management).

(2) King George V Playing Fields - 7 ha. of sloping land between Littlebourne Road and Spring Lane.
(3) Old Park - a wedge of open land penetrating almost to the walls. This land has many uses; much of its availability depends on the extent of military needs and readiness to grant suitable access. There is some present recreational use. It is the intention of the Council to ensure that its landscape value is maintained; that nature conservation interests are given due consideration; and that it continues to provide a valuable amenity for the City subject to M.O.D. requirements.

(4) The University Arboretum (Photograph No.4) - this comprises 16.2 ha. on the southern slopes of the campus. It was given to the City Council to provide amenity for students and residents of Canterbury. It has been landscaped and replanted as a parkland arboretum.

Within the fringe there are two large areas allocated to amenity open space but not yet implemented:

(1) Folly Farm - 9.5 hectares protected by a covenant prior to the development of the Hales Place Estate

(2) Bekesbourne Lane area (6.5 hectares) - part of this is in use as a site for 90 touring caravans.

These areas together with the remaining land needed for the Riverside Walk would complete the increase of amenity open space envisaged in the current Development Plan from 20 - 66 hectares by 1981.

(1) Most of the housing developments are of low density and living conditions are reasonably good.

(2) Car ownership (62% of households, 1975) is growing, therefore more and more of the city's residents will have the opportunity to enjoy the nearby coast and the countryside.
(3) Although on three sides the quality of Agricultural land is high, it has not meant that access to the countryside is poor. Because of the custom of gavelkind and of the fertility of the land, nucleated holdings are scattered because there was no base of 'open fields' surrounding a village. This has led to a pattern of lanes, bridle paths and footpaths linking farms, hamlets and sometimes churches as shown on the footpath map (Map 18). The Local Rambling Association make good use of these, as do individuals. There appears to be little conflict though clearly the pressures are growing and will continue to do so. Efficient waymarking and countryside education could both mitigate problems.

The planning policy on public open space is that no further land shall be allocated for this use. This assumes that the existing allocation of public open space is implemented.

Public Open Space does, however, cover a number of different landscape qualities. The important effect it has on land is to break up townscape and provide some sense of rurality within it. Nevertheless, in some places land is just kept with no management whatsoever. The King George's field site is an example of this and hence the area is somewhat unkempt in appearance. One would urge the Council to take a positive step towards management so that pressures of development cannot be justified.

Allotments

The location of allotments has often been in the fringe; they are often regarded as good use of rather poor land, a further reason is that, as estates were built in the fringe, location in terms of accessibilty was important. The demand for allotments is high and above the national average, with all the statutory allotments in use and a waiting list of 136 people the resultant demand for land would be another 3.5 ha.
MAP TO SHOW FOOTPATHS IN THE FRINGE OF CANTERBURY. SCALE 1:25000.
New Projects: Where is future provision to be located?

(a) The Sports Centre

This is the largest project and would be a centre of sub-regional importance. A recommendation has been accepted in principle at a cost of £3.5 - £4 million. The proposed site is Kingsmead (12 ha.) with Marsh Farm as a reserve. The former was in the fringe in 1939 but not now. Thus the present fringe will not be directly affected. However, if the reserve site were to be used at Marsh Farm the impact would be greater. This has a site of 56 acres, it would be a major development in the fringe and it would be the single greatest current recreational pressure on land use. It is also recommended that the Speedway could move here as it is assumed that noise disturbance does not matter in the fringe. It is true that other bad neighbours are located here e.g. electricity pylons and sewage plants, therefore not too much would be lost!

(b) The Broad Oak Reservoir (Discussed in Chapter 2 Section D)

A significant contribution to recreational opportunities could be made both in organised water sports and in less formal recreational amenities. The fear of local residents is that there would be too great an impact in many ways on land use pressures in the fringe both in the vicinity of the site and down river.

(c) Westbere Country Park

The Countryside Act (1968) described a Country Park as "a Park or pleasure ground for the purpose of providing or improving opportunities for the enjoyment of the countryside by the public" and "and an area of land or land and water normally not less than 25 acres in extent, designed to offer to the public opportunities for recreational activities in the countryside". The Act, furthermore, enables an Exchequer grant up to 75% of the cost of all that is necessary in acquisition, buildings and management.

In his 'Proposal for a Country Park, Westbere' (1971) D. Allison
Diagram 9

Impact of recreation within the fringe

Formal

Considerable land loss

Service provision

Major impact

Car parks

High cost

Acts as a honeypot

Assessment of conflict with other land uses?

Informal

Use of existing land

Few services if any

Use existing roads - little impact

Roads

Low cost

No significant attraction
has prepared a scheme to convert 800 acres of land and water south of Westbere between Fordwich and the Stodmarsh Nature Reserve. (See Map 7 Mineral Area 3 Stour Valley Study). It is arguable whether this is fringe land of Canterbury or its satellite villages of Sturry and Fordwich, or, indeed, whether it is fringe or farmscape. It is designed, however, to cater for the populations of Canterbury, Bridge/Blean (the rural area round Canterbury), Whitstable and Herne Bay - a total of 110,000 people. It is only 6 miles from the City Centre; therefore, it must be considered even though it is but an idea. Ownership is in the hands of the National Coal Board (former Chislet Colliery), Bretts (the large gravel extraction firm), the Nature Conservancy and private farmers. With the river and flooded gravel pits there are undoubted opportunities for Water Sports allowing for the fact that there must be access for Brett's barges.

What impact does Recreation have on the Fringe? (Diagram 9 refers)

1) Because of the nature of recreation it does require open tracks of land and as the analysis of formal recreation showed there was a deficit of supply of some 18 hectares of playing fields.

It should be appreciated that the number of educational institutions in the City has recently increased and the demand for organised recreation is considerable. Most of this demand has been met by playing fields within the fringe and, although some have been surrounded by urban development similar to some Cambridge Colleges, this has not happened in a very widespread manner.

2) The problem which faces the planners is to find a new site or sites to make good the deficit of 18 hectares. This is hampered by the lack of land in the built-up area. The recommendation of the Sports Council is that it should be within 20 minutes' journey time. The 'Choices and Strategy Report', 1981, has recommended three areas:

(a) Marsh Farm, Sturry Road - site 71 on the map of Remainder of
Sites in the remainder of the Urban Area (Group 9)

- Boundary of District Plan Area
- Numbers referred to in text
Urban Sites (Map 19) and north of Group F on the Urban Edge map (Map B). This would comprise 12 hectares of land, most of it tipped to raise the level. If the Sports Centre be located here, it is suggested 12 hectares of adjacent land be taken. The former course would not affect agriculture because it is already lost to it and in the ownership of the Council; a rival claim for use, however, might be for light industry. This latter course would lead to a loss of agricultural land.

(b) Ridlands Farm, Nackington Road (Map 5) - Although the whole of this area is high quality agricultural land, there are two factors:

(i) There is a gap between the Kent and Canterbury Hospital and the comparatively new Simon Langton Boys' School followed by low density above average standard housing up to the new By-pass.

(ii) The effect of the By-pass on the City landscape and on land between it and the built-up area is a matter of conjecture and concern.

However, it is true to say that the land between the existing School and the Hospital had been allocated for two more Schools and a playing field. Owing to a national political change in the direction of educational re-organisation, this land is now free. Not only could there be 6 acres of Playing Fields but also a local Play Area for children up to 14 years of age.

(c) Folly Farm - site 64 on the map of Urban Remainder Sites (Map 19). It is shown as allocated for public open space on the Town Map. When the Abbotsbury estate was developed in 1965, the Council agreed that the land should not be built on. At present the land, Grade III quality, is in agricultural tenancy. The northern part of the site forms the upper slopes of the Stour Valley and should not be developed for landscape reasons but the flat area (5.5 ha.) adjoining the railway could be used for housing or playing fields. If the latter, extraneous traffic would be drawn through a residential area.
Consequently, the recommendation is that it should be used for housing with provision for amenity open space on the slope and a local play area incorporated with the residential development. How far this fits in with housing needs will be discussed elsewhere.

The demand justifying a further 3.5 ha. of allotments could be met by a re-organisation of Lime Kiln Allotments in the southern fringe and by a new site in the Vauxhall Road area in the eastern fringe.

(3) The impact of recreation varies considerably as to the nature and scale of it. Formal recreation usually makes a greater impact than informal due to the related services which are necessary. Quite clearly the largest new project which would affect the fringe area in terms of recreation would be the Sports Centre hence some emphasis was given to this. Regarding formal recreation accessibility is a key factor. If major centres of recreation are to be placed in fringe areas then the road connections have to be built or enlarged to meet the associated demand.

(4) From the visual and management point of view, it would be better if recreation was concentrated within one space because it automatically reduces pressure on other areas. It helps to prevent small parcels of land which need to be managed becoming neglected; it also makes better use of the division of resources. This is probably applicable to formal recreation enabling larger numbers to be catered for. Nevertheless, a substantial minority will still require informal recreation in the form of footpaths and these need to be both safeguarded and maintained.

Thus, it would appear that recreation is not acting now as a strong major factor for land use change in the fringe partly because of the provision already made. Although by national standards there are deficiencies in this, they are not crucial and much can be put right. However, there is a lot the Council could do in rather less spectacular vein than a Sports Centre and that is to use the open space areas it has got and begin to manage them in a positive way rather than leaving some of them as almost waste ground. Canterbury does not have the pressure of a
large resident population - but this does not mean that the City can be complacent as there is little room for new development because of the constraints of agricultural land. A realistic policy, therefore, is necessary.

There are two contradictory aspects to recreation within the fringe of Canterbury. On the one hand it could be assumed that recreation as one of the factors of land use change seems to be very slight. This is supported by the relatively gently pressures of population in terms of numbers. Furthermore, it can be argued that much of the land is already allocated as open space of some kind and not in agricultural use. Accordingly, when one considers land loss, in this connection one is not talking about the loss of agricultural land but rather of a change of use.

Nevertheless, the above statement needs qualification because the areas of open land do lie on the fringe and the proposed change of use will affect not only the immediate land but also land in the near vicinity. Some of the proposals for land use are in fact major recreational schemes i.e. a sports centre, new playing fields, a proposed reservoir with recreation and a proposed new countryside park. These would have an important impact within the fringe. The countryside park would need to be carefully managed so as not to alter too much of the landscape setting. The key question that planners must ask themselves is whether a need exists for this at the present time.

The important aspect to consider is how far recreation as a process of land use change has been dominant in Canterbury. It has been shown that the pressures resulting from population growth have been slight compared to many cities and that there is a greater proportion of old to young compared to the national average; furthermore, there are no extensive areas of working class housing around large factories. There are some modest sized estates for lower socio-economic groups but these are not far from the countryside. The analysis of employment showing the high proportion of professional workers might lead to an unsubstantiated possible conclusion that a high proportion of houses would have sizeable
gardens.

Obviously, space within the walls is at a premium but the needs of conservation prohibit the building of high rise flats. It has also been pointed out that recreation for the younger age group has been catered for in the educational institutions many of which are housed in new buildings surrounded by playing fields and also provide degrees of sophistication in indoor facilities. Most of these have been sited in the fringe.

The location of Canterbury is advantageous as it is close to both the sea and country. It also has the river and gravel pits where access is permitted, areas both of outstanding natural beauty and of scientific interest and a nature reserve not far away. Above all there are many footpaths giving access to the fringe through the orchards.

In summary, there appears to be a demand for recreation which at the moment is being met within reason. The main pressure is linked with national trends within the economy and society such as the increasing affluence and attitudes towards sport and physical fitness; television has played a major role in the latter by promoting health and fitness.

As a response to this potential increase in demand the shortfall has been analysed by the local authority in 'Choices and Strategy', 1981. By nationally recommended standards a further 18 ha. of playing fields is required. Cracknell's (1967) formula would indicate that this demand should be met within 5 miles of Canterbury. The problem stems from the application of this to a fringe/farmscape either of high agricultural value or where further change of use would be contrary to other considerations. The less room there is to expand the greater the effect of a small degree of pressure. The fact that the space is also claimed by other factors such as housing and industry obviously intensifies the effect. The conflicting processes operating are shown in the study and where the priorities will be allocated. Clearly recreation is not a process to be entirely ignored.
In order to assess the role of planning as a component in the changing pattern of land use it is necessary to understand the nature of the subject and, because Britain's planning system is distinctive, some background to its growth and development.

"Planning is an extremely ambiguous and difficult word to define" (P. Hall, 1975). Although this is true, there is little doubt that planning enters into all our lives and there are consequences wherever one looks. Freeman (1974) states that planning has an inescapable geographical basis and its role is perpetual; this is despite changing economic circumstances and at all times it is concerned with land use whether it be for recreation, transport or any other of the major processes.

In evaluating planning it is true that one often takes quite a selfish approach by expecting to obtain the building and facilities that one wants. The demands that society has are often quite contradictory - most people want the facilities that urban development can provide but few want to see the inevitable consequence of power lines, telecommunications, transportation etc.

So far, planning has been spoken of in very general terms. It is, though, necessary to be precise. P. Hall (1975) distinguishes between the noun 'plan' and the verb 'to plan'. The noun refers to a physical representation, whereas the verb is to intend. Undoubtedly most people would accept that planning is more than just presentation and representation of reality in the form of a map. Planning invites a search into the future - Browning's view of "a man's reach should exceed his grasp". However, this simplistic view to the future becomes confused because of the complexity of modern life. The expectedly straightforward issues are clouded by the question for whom are we planning? Too often there becomes a wide gulf between the planner and the citizens.
The planner has to evaluate policy and decide which path is best to take. In other words, some kind of goal has to be defined - flexible enough to change to circumstances. Today, though there is often conflict in deciding what goal this should be, certainly planning is about the resolving of conflict and about assessing all the demands of society to make an analysis and a policy.

"Planning as a general activity is the making of an orderly sequence of action that will lead to the achievement of a stated goal." (P. Hall, 1975)

One other distinction needs to be considered and that is the difference between the Physical Planner and the Economic Planner. The physical planner is concerned with the spatial structure of activities such as land use (P. Hall, 1975). This is probably planning at a local level and is probably what most would understand as planning. However, there are plans which are at a larger scale and are concerned with broader goals e.g. the reduction of unemployment or increasing the number of people living in the area. These goals do have a spatial element but it is carried out on a national or regional scale.

Although the above is a very brief discussion, it serves to show that there is considerably more to the word planning than perhaps one would first assume. In fact, it begins to indicate the difficulties of any evaluation because it depends on what aspect of planning one is trying to judge. Quite clearly, at the local level it is concerned with physical planning i.e. land use, but this is not exclusively local because national demands such as transportational links are placed upon it. Land use planning has also to be judged in some perspective in relation to the development of planning.

History of Planning

Many countries have some form of planning but the way in which Britain has evolved a system is particularly distinctive. Indeed, land
use planning is an accident of history - a combination of practical reform and visionary thinking, the latter from Owen and Geddes (Roberts, 1974).

It is possible to suggest that the planning system today can be traced as having two clear phases - the first, pre-1970 and, the second, post-1970.

The pre-1970 era saw a great emphasis on physical planning. This was not surprising as modern statutory planning began from the realisation that the pace of growth in the urban environment was increasing and having detrimental effects on it (Freeman, 1974).

Statutory planning, in fact, began with Public Health in 1875, though it had been preceded by the earlier Sanitation Act of 1848. It is fair to say, though, that perhaps the largest contribution to planning came from the visionary book by Howard first published in 1898 then again in 1902 under its better known name 'Garden Cities of Tomorrow'. From this came the concept of decentralization and the 'garden city' movement. The book was truly revolutionary for its time. Nevertheless, it should be regarded as seminal of the pressure which was beginning to grow for greater efforts to be made.

The 1947 Town and Country Planning Act was based upon a series of Reports by Barlow (1937), Scott (1942) and Uthwatt (1942). These all have great significance for the development of planning. The 1947 Town and Country Planning Act was a culmination of these reports representing a drastic new start with the radical concept that owners had no rights except continuing to use their property for its existing purpose. By its nature the Act brought the classic sequence of survey, analysis and plan which had been advocated earlier by Geddes. (Hall, 1975). Unfortunately, the survey analysis became too rigid and, although some flexibility of re-drawing the town map every five years was required, it could not keep ahead of development. Accordingly there became increasing dissatisfaction. In true British style this
was assuaged when the 1971 Town and Country Planning Act was passed. This did try to introduce a more flexible system replacing the former descriptive Town Map. It allowed local authorities to focus on broader issues allowing greater public influence. However, despite changes in name there still has to be some survey but much greater emphasis is on goals, on simulation of alternatives, on evaluation and choice. The above shows the essential difference between the 1947 and 1971 Acts. It is necessary to comment that there are still doubts about the speed of operation of this process because the Thanet Plan took 11 years to produce! In practice the system now requires two levels of plans. The County Structure Plan (1980) which is based on provision for the whole County - a written statement of County proposals which need the Secretary of State's approval. The second level is that of the local plan which has to translate the intentions of the Structure Plan into detailed proposals. Local plans themselves can be divided into District, Action and Subject plans depending upon the needs.

The final general point is that all of the planners' work has to take place upon a pattern of land use which is already in existence. The role of the planner is to seek to influence, to change and control it for the benefit of the community, however defined.

The Situation in Canterbury

With reference to the local situation the Town and Country Planning Act of 1971 requires that plans have to be prepared. A County Structure Plan shows where broad development will take place and indicates where local plans are required. Canterbury was selected as one of these areas. The aim of the Canterbury District Plan (1982) is to carry forward the work of the Structure Plan. This seems to indicate that the general policies of the Structure Plan have to be seen within a local context. The District Plan replaces the City Development Plan which had been approved in 1970. The District Plan consists of a written statement with policies and a proposal map.
The key concept behind the plan is that it must conserve the historic character of the City. The use of the fringe will be critical in the achievement of this goal. It indicates that there are some vacant sites within the City which could be used for development and before other new land is taken. The policies and proposals will have to be defined, so will the level and pace of change which would be acceptable.

"The purpose of the plan will be to balance the functional pressures of the City against the transportation and car parking implications of a given level of growth considered in the overall context and conserving the character of the built environment."

Diagram 10

DISTRICT PLAN PROCESS SIMPLIFIED

CONSERVATION STUDY

REPORT OF SURVEY

REPORT ON CHOICES & STRATEGIES

DRAFT DISTRICT PLAN

TRANSPORTATION STUDY


The process of the District Plan simplified is illustrated by the above diagram. It shows that the District Plan contains four surveys - the Conservation Study (1979), the District Plan Survey (1979) and Transportational Survey (1981). These three major studies provide both a factual and an analytical platform upon which the plan will be based. However, the next stage is an important one because it represents a divergence from the old style plan making. This is the preparation of a document which considers ranges of choices and options available. It
then summarises conclusions to attempt to provide a sound basis for the plan in all its aspects. This document is called 'Report on Choices and Strategy', 1981; its framework is shown in Diagram 11. It is divided into three parts - I Demand Studies, II Accommodating Growth, III Choices. In the section on demand studies it considers the various demands upon the city and it is interesting to note that it is quite a comprehensive list illustrating the range of issues in which planning is involved. It would be a reasonable comment that it deserves credit for giving a sound basis to the report.

One of the problems of spatial planning has been what size that spatial unit should be. The Canterbury plan area consists of the former County Borough adjoining the built-up area, including Harbledown, Thanington, the University and Rough Common. In 1974 the District of Canterbury was established. The City of Canterbury was a natural functional region acting as a focus for employment (within the District the majority of jobs are located in Canterbury - shopping, transport, culture etc.). A key factor is the recognition that the development of Canterbury is closely linked to its region; this is reflected in the boundaries of the new District which stretches as far as Herne Bay and Whitstable, as well as including the former Bridge/Blean Rural District (see Map 20, Choices and Strategy, 1981). This 1974 reorganisation therefore united the town with its environs. No longer would there be the separate authorities resisting, often tenaciously, the 20th century city growth and carrying out their own obligations on a smaller scale in villages e.g. sewage works, Isolation Hospital, lighting, paving and so on. It could be said that modern transport and society's sophisticated requirements were better when concentrated in a single combined unit centring on the City. In spite of this it is necessary to emphasise that the District Plan Area is the City and some of the fringe, not the entire District. (See District Plan, Map 21).

In the overall context of planning the aim of the Canterbury District Plan is as follows:

(1) To describe planning policies that apply to the Plan Area, to
Structure of report on Choices and Strategy

Diagram 11.

Section I - Demand Studies.
This section considers the demands that are likely to be experienced in the City up to 1991 for:

i. Housing and Population
ii. Employment and Industry
iii. Shopping
iv. Tourism
v. Public Open Space
vi. Transport
vii. Social and Community Facilities

Section II - Accommodating Urban Growth.
This section considers the capacity of the City to accommodate urban development within the built-up area and on the edge of the City.

Section III - Choices.
This section examines the suitability of sites within the urban area for accommodating development and the range of choices available for meeting the demands identified in Section I. The final chapter summarises the main conclusions arising and outlines an approach for the future development of the City.

Source:
develop and test the policies and generalized proposals of the approved Kent Structure Plan.

(2) To provide a detailed basis for development control by allocating sites for particular purposes and defining areas to which particular policies will apply.

(3) To provide a co-ordinated basis for public and private development and investment.

(4) To bring before the public and other interested bodies local planning issues and to provide an opportunity for such persons to comment on the future development of the city.

(5) To review the existing Development Plan for the City. (Choices and Strategy Plan, 1981).

On the surface it is a very comprehensive system with admirable goals but the execution of it may prove to be difficult. Before discussing this there is one other planning context which needs to be mentioned and that is the other plans involved with the area. The Kent Structure Plan (1980) has been mentioned. There is the Stour Valley Countryside Plan (1980) which is designed to reconcile conflicting interests of agriculture, nature conservation, minerals and recreation. The Kent Countryside Plan (1982) is being defined on an Ordnance Survey basis as areas identified in the Kent Structure Plan. Lastly, there is the Minerals Subject Plan (1982) which identifies sites for future development. The importance of these is that boundaries overlap the District Plan and there must be consistency in policy.

"In the event of conflict between plans the most recently approved takes precedence".

(Choices and Strategy, 1981)

The Kent Structure Plan was approved in 1980 and, significantly for Canterbury, growth in the County is to be concentrated at Ashford and not in Canterbury. The overriding theme was the principle of conservation and of restraint to allow the special character of Canterbury to be preserved.
Evaluation of the role of Planning

There is a great deal of difficulty in understanding the success of planning e.g. what standards are being measured and what would have been the effect without planning? These seem to be vague and may be academic so not very relevant for the real world.

In terms of a plan one can ask the following questions:-

(1) Is the Plan a rational one?
(2) Does it meet the needs of the community?
(3) Are the underlying principles sound?
(4) How effective is the Plan?

The key point is the last - the effectiveness of the plan. It has to see that the proposals and policies of the Structure Plan are carried out at the local level. The features of the Structure Plan for Canterbury are as follows:

**Summary of Extracts of Structure Plan Policies Applicable to Canterbury**

In general a policy of restraint in the provision of housing land shall apply (H E C 1). Within the built-up area maximum use should be made of existing buildings and sites available for development (H E C 4).

In Canterbury, an area of restraint, industrial development will be generally refused unless there are special circumstances (H E C 11). Concentration of warehouse facilities will be permitted subject to compatibility with other policies (H E C 12).

Proposals for shopping development resulting in a material increase in aggregate floorspace will only be permitted exceptionally and would have to be consistent with conservation and traffic capacity. This also applies to offices (H E C 13 and C A 12).
In conservation areas the primary planning policy will be the conservation and enhancement of special character (B E 2).

Development which will cause a loss of productive or potentially productive agricultural land will not be permitted unless there is an overriding need and there are no alternative sites (C C 1).

Special Landscape Areas such as the North Downs and Blean Woods will be given long term protection. This also applies to sites of Special Scientific Interest such as ..... (C C 7 and C C 8).

As has been remarked the overriding theme is the conservation of a historic city with its Cathedral of worldwide importance set in a landscape containing some valuable agricultural land and areas of natural beauty. Consequently, the recurring feature is restraint, though some regard has to be given to the growing problem of transportation connected with a city which owes its origin to its position on a route to the Continent and its establishment as a sub-regional centre. If the principle be clear, it is not unreasonable, nevertheless, to comment that details are understandably missing and some exceptions/provisos made. These extracts have been included at some length because they are essential

(1) to illustrate the function of the wider County Plan, and

(2) to understand the background of the District Plan before some assessment of its influence on land use as well as its harmonising with the aims of the County. It is the application of principles to such matters as Housing and Transport which provide the major issues. The District Plan (1982) suggests the detailed resolution of them.

The District Draft Plan (1982)

The list of policies and proposals found here are wide ranging in content. They cover all the major land uses. To show the influence of
Planning the following are now considered:

Transportation

"The District Plan provides for a highway network that will allow access to existing and proposed development and reduce accidents, congestion and delay to both pedestrian and road users whilst being compatible with wider conservation objections."

The analysis of the statement begins to show, perhaps, a weakness of the planning system. The fact that a By-pass was built in the Southern fringe on Grade I and II land makes it difficult to see how that provision is very compatible with the stated objectives.

The statement allows for development of transport almost anywhere because it states both existing and proposed. The non-sequitur of reducing congestion and delay is then added, as is conservation in the last sentence. To be fair, the policy does state that new development should be near primary routes. It is always easy to criticise policies and more difficult to suggest others. It seems that the goal is admirable but the execution of it is weak. The provision of primary routes is a national/regional concern and can be largely outside the control of the local authority hence in terms of evaluation of the role of planning the local authority does not have a great deal of power. Moreover, the particular By-pass was going to have a very marked effect in terms of a fixation line.

Housing

It is interesting to note that the District Plan makes little mention of housing in the fringe areas. Yet both of the key areas for later development - Ridlands Farm (350 dwellings) and Neal's Place Farm (350) are in the fringe! Indeed, Ridlands Farm is a controversial site and may well not be accepted by the County Council. Although the plan is specific regarding the City, it leaves the fringe in very vague
terms. The choice and justification for the Ridland's site seem to contradict the aim of conservation of the farmscape.

Recreation

There seems to be a positive response to recreation with some specific proposals. The main suggested sites of Marsh and Ridlands Farms are in the fringe. The development of a new Sports complex would undoubtedly have a major impact. It is the impact of recreation in the fringe which is one of the important factors regarding the Broad Oak Reservoir and the use of flooded mineral workings near the river both above and below the City.

On examination of the District Plan it would appear that there is comprehensive control of land use. However, it is not quite as clearly definitive as it would at first seem. It is probably fair to say that the planning system has been arranged to protect against any unsuitable development by a private householder but perhaps it is less comprehensive than it would indicate on the public services which often have an important visual impact.

The significant question is whether planning permission is required if it amounts to development. Development is defined in planning law as "the carrying out of building, engineering or mining or other operations in, on, over or under land, or making of any material change in the use of any buildings or other land." (T.C.P.A. 1974)

The above definition seems comprehensive but there are some activities which are excluded. The 1971 Act specifies six activities which do not constitute development and therefore do not require any kind of planning permission. It is worth noting these because it illustrates just how much is effectively outside the control of planners:

(a) The maintenance, improvement or alteration of any building
which affects only the interior or does not materially affect the
external appearance provided that it is not making good war damage and
does not involve producing more space below ground.

(b) The maintenance or improvement of a road within its existing
boundaries by local highway authorities.

(c) Any work done by a local authority or statutory undertaking
for the purpose of inspecting, repairing or renewing sewers, mains,
pipes, cables or other apparatus.

(d) The use of any building or land within the curtilage of a
dwelling house for any purpose incidental to the enjoyment of the house
- this does not include erecting a building.

(e) The use of any land for agriculture and forestry and the use
for those purposes of any buildings occupied with the land; again,
this does not include the erection of new buildings.

(f) The changes in the use of buildings within classes specified
by the Secretary of State.

The above is important because it can be seen particularly that
statutory bodies have greater flexibility and that agriculture seems to
be largely exempt. Both of these are especially relevant to land use
change in the fringe.

A further carte-blanche is given through the General Development
Order which gives automatic permission for certain categories of
permitted development. Significantly, they include the erection of
certain agricultural buildings.

Planning permission carries on through time and this is worthy of
emphasis especially where administrative changes have taken place. It
is of noteworthy relevance when one considers such major activities as
mining, all too often a revision of policy is required but it cannot be effectively put into practice because the Council do not control the land.

Nevertheless, quite clearly planning as a factor of land use change is most marked. But the special cases of a local authority or statutory undertaker are subject to other arrangements. If development has received a Government grant, full authorisation is then deemed to have permission usually after courtesy consultation. This category has within it power stations, overhead lines, pipelines etc. All of these could have major land use implications. Thus, it must be the conclusion that where these activities predominate the control over land use is less secure; by inference this will be in fringe areas.

The map of Canterbury shows the policies which Canterbury City Council propose to adopt. Within this framework any planning applications can be considered. However, what real control is there?

The District Plan conclusions (Map 22) indicate some interesting points and the following comments can be made. In the southern fringe there is designated an area of Special Significance for Agriculture. It seems somewhat strange to see a major trunk road and two major junctions at site 137 and site 139. Furthermore, the development of a Motel at 139 in this area seems to be somewhat contrary to the original policy. Photograph No. 3 illustrates the point. This may be justified on the grounds that as land is already used for the junction that it really only amounts to some form of multiple use. There is also controversy over the Ridlands Farm site at 140. This forms at the moment open land as designated for housing rather than for the original purposes of educational use. Ridlands Farm site (Map 5) is discussed in greater detail elsewhere in the study but its importance in the planning context is that it is now a wedge of land made vulnerable to development because of the building of the By-pass.

The good agricultural land extends westwards on the periphery of
District Plan Conclusions

PROPOSED LAND USES

- **R**: Residential
- **IN**: Industrial
- **E**: Education
- **B**: Office
- **OS**: Open Space
- **OS/A**: Allotments
- **HL**: Hospital
- **SC**: Sport/Leisure Complex
- **H**: Hotel
- **C/T**: Touring Caravans
- **New road**
- **Interchange**
- **Improved road**
- **Roundabout**

BOUNDARIES

- **Limit of Urban Area**
- **Central Area Inset**

OTHER PROPOSALS

- **Housing Improvement Policy**
- **Area of Special Significance for Agriculture**
- **Area of Special Significance for Landscape**
- **Local Green Belt Policy**
the urban area. Industrial use is indicated near the firm of Bretts. This development is sensible because it runs to the natural barrier of the flood plain. Near Hollow Lane (107) there is provision for expansion of residential development which would take allotments out of use. The loss of land would not be significant in amount but it is sited on a rise and would be seen from a distance.

At site 100 there is classical fringe land use showing a high degree of fragmentation. At Marsh Farm, site 106, an open space is indicated, this is currently being used as a rubbish tip and is a possible site for a Sports complex. It is technically open space but nobody could use it at the moment. On the opposite side of the road is the sewage works and there is an area of allotments close by. To the west of this is an industrial estate and there will be great pressure to use the space of the allotments for industry (site 109).

Conclusion

Planning has had an increasing influence upon the broad strategy of the structure of the City; this has been true of the emphasis on preserving the ecclesiastical and mediaeval heritage. The Planning system has allowed for extensive evaluation of options and has identified a strategy for Canterbury. The role of the fringe should not be underestimated in this - it is fundamental in achieving the main goal of the plan. The District Plan (Map 22) indicates the importance of this. It also highlights the land use structure of the fringe. In the north-west segment of the City lies a wedge of educational land uses, dominated by the University and the associated areas for playing fields and open spaces.

In the north-east the main features of land use are light warehousing and poorly tended open space rising to the ridge which is the boundary of the possible catchment area of the Broad Oak reservoir. In an easterly direction land use is controlled by the M.O.D. with its considerable holding. In the southern fringe, although close to the
best agricultural land, will be found the location of the main Hospital for East Kent, an industrial estate and, significantly, the new Bypass. If further emphasis is required the table illustrates the range and locations.

Table 18

Land Use in the Fringe

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Fringe Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>Most of the residential areas are found in fringe areas.</td>
</tr>
<tr>
<td>Industry</td>
<td>Most industry requiring spatial warehousing found in the fringe at Wincheap, and near the Sturry Road.</td>
</tr>
<tr>
<td>Transport</td>
<td>The major distributor roads cross the fringe e.g. to Dover, London, Thanet and Ashford.</td>
</tr>
<tr>
<td>Services</td>
<td>Many of the services for the 'urban way of life' are located here.</td>
</tr>
<tr>
<td>Sewage works</td>
<td>✓</td>
</tr>
<tr>
<td>Abattoir</td>
<td>✓</td>
</tr>
<tr>
<td>Hospital</td>
<td>✓</td>
</tr>
<tr>
<td>Caravan Site</td>
<td>✓</td>
</tr>
<tr>
<td>Schools</td>
<td>✓</td>
</tr>
<tr>
<td>Refuse Dump</td>
<td>✓</td>
</tr>
<tr>
<td>Sports Complex</td>
<td>✓</td>
</tr>
<tr>
<td>Hockey Club</td>
<td>✓</td>
</tr>
<tr>
<td>Golf Course</td>
<td>✓</td>
</tr>
<tr>
<td>Water Works</td>
<td>✓</td>
</tr>
<tr>
<td>Cemetery</td>
<td>✓</td>
</tr>
</tbody>
</table>
All of the above land uses clearly have a marked effect on the structure of the fringe. This effect can be in physical terms where transport divides the area into spatial units, or in more disguised forms such as social areas through types of residential estate.

The important role that planning post-1974 has taken on is of providing guiding principles so that land use planning is not simply one of negative action. Bryant, Russwurm and McLellan (1982) have written of the need of flexibility in the application of planning. Above all, planning should be concerned with resource allocation rather than land use patterns per se. The function of a set of guiding principles - namely, the protection of the historic core yet at the same time providing a healthy economy - is aptly demonstrated in Canterbury. The need for flexibility is also shown because, were the Old City to be preserved at all costs in its entirety, the fringe could become a zone of unwanted land uses only. The fringe offers much more than this as a resource for recreation and managed access to the countryside. The City planners undoubtedly face a great dilemma. The fringe is one of the few places where utilities can be sited and it is a question of finding the least unsatisfactory places.

Perhaps the most sizeable defect of the above analysis could be described as a structural problem and that is the nature of the region that is being planned. It is still largely based on a formal unit i.e. the District Plan area. Although the 1974 Act extended control by the City into the immediate environs, it did not extend them far enough. By extending them it has brought the possibilities of clashes of interest with agriculture and conservation into the same arena. This should be an advantageous development yet because the boundary is still too close to the City i.e. one or two miles, it does not have the functional power to be effective. Thus, the regional nature of Canterbury is very much outside the control of the local authority, examples could be the nature of the transportational arteries and the demands upon services which are expected of the centre for East Kent.
The failure to have a planning unit the appropriate size to meet the problem will prevent effective management of the fringe and hence the goals of the plan have very much less of a chance in succeeding. There is little doubt that the plan can control detailed land use patterns quite well. This will be on a relatively small scale and it could ignore the real issues. Yet even the control of land use is not complete. Larger statutory bodies, although carrying out consultations which some regard as courteous, do seem able to execute comparatively easily major projects which have a lasting as well as immediate effect. This is illustrated by the land owned by the C.E.G.B. on the Sturry Road estate and by the Water Board looking for sites for a new reservoir. A. Coleman (1976) believes that much planning now needs to be brought under the rule of law and that it should be occupied much more with means rather than ends. It is one thing to have goals, but if they are unachievable because the mechanism is not there to gain them, then it is almost a meaningless exercise. Coleman (1976) states that there should be a clear framework so that a citizen or statutory body would know in advance whether it would be acceptable. At the moment the procedure seems to be subjective and it should be the aim of planners to undertake environmental planning which emphasises "prevention is better than cure". (Coleman, 1976). This may be possible in the future but at least the 'Choices and Strategy' approach is an attempt to provide some of the analysis required. It should be remembered that planners work in many controversial areas and they would be the first to acknowledge previous mistakes but it is to their credit that their balance sheet shows a healthy justification of their contributions. Perhaps the fundamental criticism is that they have not yet acknowledged in Canterbury the importance of the fringe in obtaining their desired objectives.

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CHAPTER 3

CANTERBURY'S CHANGING FRINGE

A. Introduction

The purpose of this section is to analyse two areas of the fringe in detail to demonstrate the processes that are operating and to understand the resultant land use pattern. There is an attempt to put this in the context of the scape and fringe work of A. Coleman and J. Shaw (1980). It will be hoped to ascertain: (i) if the rurban fringe is increasing as a result of these apparent processes; or (ii) if the fringe areas have been checked as a result of planning which has tried to produce a more coherent land use pattern increasing 'scape' rather than fringe areas.

The scape and fringe approach of Coleman (1982) is known as a general land use model because it endeavours to bring all land use types into the same framework. The classification of land use is put in five broad categories - Wildscape, Farmscape, Townscape, Marginal Fringe and Rurban Fringe (see Diagram 12). The model is used in two stages. The first entails the identification of land into three major categories known as "supercategories". These are:

(i) Settlement supercategories including residential, commercial, industrial, transport, tended open space and derelict sites.

(ii) Improved farmland including arable, horticulture, orchards, hop gardens and allotments.

(iii) Vegetation and cover including woodland, rough grazing, marsh and rock outcrops.  

(Coleman A. & Catling S., 1982)
A SPATIAL DIAGRAM OF TERRITORIAL RELATIONSHIPS

SOURCE: A. Colenman 1969
The second step is to decide whether any of the above is sufficiently dominant to form a scape over a large area or whether these supercategories are interspersed with one another to form a fringe.

The details of the rurban fringe are the most important for this study and a few points are worth noting. The rurban fringe is an irrational land use pattern which it was hoped would disappear after the advent of planning (Coleman, 1977). Coleman writes that good planning would indeed expect to increase the area occupied by scapes and reduce that designated as fringes. The fringe regions are partly a product of the desire for low density living and for the rural way of life with the trappings of urban environment. This has lead to sprawl which has encroached on farmland and village settlement; in consequence, conflicts begin to arise, particularly but not exclusively, in terms of land use.

From this it is manifest that in any consideration of an area the nature of land use is of vital importance. The Land Use Survey by Coleman A. in the 1960's emphasized that mistakes in planning were still being made. In 1963 some scape and fringe maps were compiled for some areas e.g. Thames Estuary (1960). It was clear that rurban fringe occupied about twice as much land as Townscape. The construction of the maps was no easy task, not least in the categories which were chosen to identify them. The dangers of the supercategory approach were that fringe could be designated instead of Townscape.

If the Coleman definition (1982) is accepted then land use policy has not achieved its objective. The land use maps of the 1960's show plenty of evidence that more fringe land has been created. The rurbanizing process can be identified very clearly through the scape and fringe maps. However, as Coleman and Catling (1982) recognise, the classification of the rurban fringe is itself a very broad type of environment and one needs to distinguish between urban growth into semi-natural areas and urban growth into farmland.
The fringe can also be identified according to different settlement types i.e.

(i) Lightly ruralized - those areas in the early stages of settlement growth where fragmented farmland has not yet been abandoned.

(ii) Heavily rurbanized - where settlement occupies a high proportion of land.

Most importantly, it is recognised that a functional fringe is formed where the areas are occupied by "coarse-textured" land uses which would be out of place in both Townscape and Farmscape.

Finally, the fringe can be identified further - whether it is proliferating over rural land or in a few cases if it is declining.

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184.
B. The Broad Basis of Evolution.

Background to Land Development in Canterbury

The land use pattern of present day Canterbury needs to be put in a broad context of general growth phases stemming from the central City. As can be seen from Map 23, the central City was largely developed by the 1800's. The radial pattern is re-emphasized and there is shown the effect of negative factors such as the M.O.D. land with the Barracks (from 1794) and the flood plain of the River Stour.

The development process seems to show a distinction between the early part of the 19th century when there was comparatively little land taken and the latter part i.e. from 1836 onwards as the Map shows. It can be noted that most of this development constituted residential areas growing outwards from the central City; considerable growth is seen for instance in the north-west. Almost all the land area developed between 1836 and 1907 was an extension of the Townscape except for the Hospital on the Littlebourne Road and the Sewage Farm on the Sturry Road.

For the period 1908 - 1949 there were indications of expansion of residential areas in the South-East, North-West and North-East. These are important because they extended the growth into fringe areas and also because gaps were left both within these areas and within the Townscape; consequently, the fringing process had rapidly increased.

The development between 1959 and 1971 was most marked in the Northern areas both east and west. This is not only as a result of new residential areas but also of the development of industry and the establishment of the University (1965). In the South West there is the Wincheap Industrial Estate - Depots and Warehousing etc., (1960) (Map 23). In the post-1970 period the salient features of growth are in housing at Hales Place (N.E.) and 40 Acres Road, which is between the Whitstable Road and St. Stephens on the City side of the University.
MAP TO ILLUSTRATE PERIODS OF GROWTH IN CANTERBURY 1750-1971.
There is also the growth of warehousing and out of town shopping in the N.E. fringe. Transportation appears to be a potentially large factor in the South with the building of the By-pass. Some M.O.D. land near the urban limits has been released for some housing and offices. There is undoubtedly a greater intensification of land use. There is not a large growth on a macro-scale because of the effect of Planning but rather it on a micro-scale that land use has changed. As the empirical studies will show, Townscape has increased significantly.

Two areas for Study - Sturry Road and the University

The choice of these two (Map 24) was determined by the fact that they represent two contrasting spatial patterns as a result of different processes in fringe formation. Sturry Road constitutes a mature rurban fringe with what could be termed heavily rurbanized land uses and it is a functional fringe. Here change has been rapid and the visual impact considerable. In 1930 the area was largely an open space but by the 1960's it had reached rurban fringe classification. Land use mapping in the 1980's indicates that not only has this been consolidated but also possibly expanded.

In contrast, the University area provides a more coherent land use pattern and is lightly rurbanized. This has been largely due to the presence of elements in the land use resistant to change - notably educational establishments. However, one must not underestimate the impact that educational establishments can have on the land use pattern e.g. the University controls some 300 acres of fringe.

Land Use in 1930's

The first Land Use Survey by Stamp in the 1930's was carried out for the whole of the country. It was originally mapped on 6" field sheets but unfortunately the sheets for Kent have been destroyed. The scale of the published maps is 1" to 1 mile and it should also be noted that the number of land use categories were far fewer than in the subsequent Survey of the 1960's.
The University area in the North-West of the city.

The Sturry Rd. area in the North-East of the City.

Approximate Area of Townscape.

MAP TO SHOW LOCATIONS OF THE STUDY AREAS IN THE FRINGE.

Scale: 0 — 1000m.
The 1930's map of Sturry Road (Map 25) shows the linear extension of the built-up area along the A.28. Care has to be taken because the intensity of the built environment was less than in later years. The map shows that, although some modern residential development had taken place, the most significant feature was the large amount of meadow land bordering the river Stour which had not yet been developed. The M.O.D. land in the south-east was seen to be a significant area.

In the University Area in 1930 (Map 26) the land was mostly open space because, of course, the establishment of the University with its subsequent dominance had not taken place. However, Kent College and St. Edmunds had land for Playing Fields. The amount of land devoted to orchards was considerable. To summarise, the region could be deemed to be lightly rurbanized.

Scape and Fringe Maps, 1960

The next stage is to compare the land use pattern in the 1960's with that in the 1980's. Comparison, however, simply of land use may result but the process is difficult and there are many pitfalls as sample areas in the Netherlands, Lake District, Wales and the South West have demonstrated (Coleman, Cantell and Sinclair, 1974).

The map of Canterbury (Map 27) shows the general context of scape and fringe as produced by Coleman and Shaw (1960). The characteristic which immediately impresses is the amount of rurban fringe. It dominates the land use pattern. The central City is identified as Townscape but on all sides there is some and in other areas much fringe. Even on the southern side of Canterbury where good agricultural land is located there is a small amount before the Farmscape is reached. The linear pattern of the north-east fringe is indicative of the Sturry Road area and the communication axis to Thanet. The importance of the scape and fringe maps is that they highlight the vulnerability of the scapes and the growth of fringe areas.

--- *** ---
LAND USE SKETCH MAP 1930's STURRY ROAD AREA.
LAND USE SKETCH MAP 1930's UNIVERSITY AREA.
LAND USE CATEGORIES FROM THE 1930 LAND-USE SURVEY.

- Built-up Area
- New housing, Nurseries, Allotments
- Meadowland, Permanent Grass
- Heath/Moor, Rough Pasture
- Mixed Woodland
- Arable
- Orchards
- Railways
- Roads

Scale: 0 - 0.5 km.
C. A Detailed Empirical Analysis of 2 Areas

1. STURRY ROAD AREA

Sturry Road Scape and Fringe, 1960

From the land use map (Map 28) and in conjunction with the scape and fringe map for 1960 (Map 29) it would appear as though the area is in the advanced stage of fringe formation i.e. there is quite an irrational pattern of land use. The Townscape is confined to the central city and extends to the boundary of the Barracks. After this point the rurban fringe is quickly entered. In the North-West there is a small area of Townscape centred on the Hales Place housing estate. Marginal fringe is another scene of land use conflict which tends to result in land disuse. This tends to arise from economic conditions rather than from planning. Most of the marginal fringe tends to fall in the area because the quality of open grassland is likely to be poor (Grade 3/4) in the Folly Farm vicinity. Thus, the scape and fringe map is a very clear illustration that much of the Sturry Road area is rurban fringe.

Detailed Land Use Appraisal, 1960

Grid Sq. 150600 160590

Here land use north and south of the railway line can be considered. In the north there is Folly Farm which is surrounded by open space, orchards and arable (wheat). At this stage land use appears to be unaffected by the housing estate at Hales Place. In the south-west corner King's School Playing Fields are located (see Photograph No. 1). In the north-east near the railway there is waste ground i.e. rough ground not in agricultural use. To the south of the railway line there is a mixture of land use - some residential and some for factories. There is a considerable area of old gravel workings, evidenced by the resulting Vauxhall lakes. This is surrounded by rough
SCAPE AND FRINGE MAP OF CANTERBURY 1960.

KEY:

- TOWNSCAPE
- RURBAN FRINGE
- FARMSCAPE
- WILDSCAPE
- MARGINAL FRINGE
- STUDY AREAS REFERRED TO IN TEXT

AFTER COLEMAN AND SHAW 1960
LAND USE KEY FOR 1960'S MAPS

PARMLAND

Cereals

HORTICULTURE

Hops

Allotments

Nursery Gardens

Field Vegetables

Flowers

ORCHARDS with grass

GRASSLAND

Improved Grass

Rough Land Reverted

WOODLAND

Closed Canopy

WATER

RESIDENTIAL

Houses

INSTITUTIONS

Schools/Hospitals

INDUSTRY

Factories

Tips

Utilities

TRANSPORT

Roads

Railways

TENDED OPEN SPACE

Grassed

Derelict

Scale: 0 0.5 km
STURRY ROAD SCAPES AND FRINGES 1960.

KEY:
- TOWNSCAPE
- MARGINAL FRINGE
- RURAL FRINGE

MAP. 29.
ground and contributes very much to the visual image of a fringe area.

**Grid Sq. 160590 170590**

In this grid square a complicated pattern of land use is found. There is some housing to the west of Vauxhall Road and then land uses such as tips, market gardening, allotments, open spaces, rough ground and even some cereal crops. To the south of the Sturry Road there is more housing, an area of rough ground, allotments, market gardening and a tip.

**Grid Sq. 160580 170580**

This is dominated by the M.O.D. land hence it constitutes mostly rough ground used for training purposes. It does highlight the barrier to development and so it can be considered a conservative element in the fringing process - the houses are kept to a clear cut boundary and end abruptly at the military fence.

**Grid Sq. 600580 160580**

There is some unity with the beginnings of Townscape as the central City is entered. A feature is the number of allotments that are here and the fact that they take up space. As the Barracks are still held by the M.O.D. there is a break in the residential development. In the north-east of Kingsmead there is a considerable amount of open space and playing fields.

**The Nature of the Fringing Process in Sturry (1960)**

(I) Structure

a) The physical base of the region has played an important part in the formation of this rurban fringe. It is not on prime agricultural land for the quality varies between Grades III and IV some of which is not in agricultural use. Consequently, from the
agricultural viewpoint this makes it more vulnerable to the invasion of other land uses.

(b) The human influence is typified by the fact that the mineral workings have left an open space of water and rough ground which cannot be used for agriculture yet is not really very attractive for housing.

(2) Transport

Two axes of transport divide the area running in a north-east/south-west alignment. The road and rail links are both from the Thanet region. The railway provides a physical barrier which decreases accessibility to land either side of it. The 'A' road from Thanet, on the other hand, does provide access both to the central City and outwards creating an attraction for housing. There are also the two important links of Vauxhall and Kingsmead Roads. These increase accessibility and create both a quicker route into the City on the Broad Oak Road and an opportunity for further development.

(3) Land Ownership

Land ownership by statutory bodies has been an important feature as these two examples show. M.O.D. has been a static constituent of the fringe largely because of the large area of land it holds and the curtailment of expansion which could only take place if the land was ever released. Education has a role in the area, albeit relatively small, but land is held both for Primary Schools in housing estates and for playing. The effect is to slow the ruralizing process.

(4) Housing

Perhaps the greatest use of land is in accommodating the people of the City (see Map 23). The Development Map indicates the time scale of development, some took place from 1801 to 1907 but there was considerable growth from 1908 to 1949. The houses tended to be for
Socio-Economic Groups 4 & 5 i.e. for the workers providing services in a growing city. Development in the future from 1959 is indicated on the map of "Land Use in 1960". It marks the beginning of extensive warehousing in the area.

(5) Utilities

This category of land use represents the urban way of life. Within the region can be found tips, electrical works, sewage installation etc. These perform valued functions even though they are often visually unattractive and so are located in these fringe areas - certainly away from the better housing.

(6) Agriculture

On the map agriculture displays its adaptation to the urban fringe although there are indications that not all of it is at an advanced stage of fringe formation yet e.g. orchards are still close to the urban environment and cereal crops are still grown. Nevertheless, market gardening, the classic adaptation to an urban vicinity, is shown with its specialist crops including peas and flowers being grown. The area, on the whole, does not appear one which is under maximum pressure. Allotments are also a significant feature of the land use map. Some plots even close to the Townscape are quite large. They represent a form of intensive cultivation as a supplement to people's gardens which are small because land is scarce and costly.

Conclusion

Sturry Road evinces an area where there has been a considerable growth of the fringe region. Certainly, it is true that since the 1930's a rapid change has taken place. From the Coleman and Shaw classification (1960) almost all the area is designated as urban fringe. The processes responsible for this have been identified above. It would be expected that they would increase so land would become more
intensively used. By 1960 the centrifugal forces of fringe formation are well advanced.

Land Use in 1984 (Map 30)

Grid Sq. 150600 -160590

The increase of housing has been the important change north of the railway line. Hales Place is probably the largest housing estate in Canterbury. It has taken up land formerly occupied by orchards and it has extended its eastern and south-western boundaries; King's School Playing Fields are a barrier to further expansion. Folly Farm is surrounded by housing on three sides hence its 9.5 ha. must be under great pressure even though it is an amenity open space protected by covenant prior to the housing development. It is not surprising that this has resulted in the reduction of vulnerable crops such as fruit but wheat is still grown; indeed, there appears to be more expansion of the area devoted to this use. In contrast, south of the railway industry and warehousing have expanded greatly. This ranges from light industry to garage showrooms and transport depots (see Photograph No. 1). The impact is not just limited to one of land use because it includes the amount of traffic generated and, strikingly, the visual effect on the environment. This latter is vividly illustrated by the large transformer station of the C.E.G.B. which holds land in this sector.

Grid Sq. 160590 170590

The major changes here have been the growth of warehousing and expansion of the sewage works. There are still remnants of market gardening with a concentration on flowers. All the cereal growing has been replaced by industry or is now rough ground. The allotments, too, have disappeared. Clearly, there has been a considerable intensification of land use by industry.
<table>
<thead>
<tr>
<th>Land Use</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmland</td>
<td>Cereals</td>
</tr>
<tr>
<td><strong>FARMING</strong></td>
<td>HORTICULTURE</td>
</tr>
<tr>
<td></td>
<td>Hops</td>
</tr>
<tr>
<td></td>
<td>Allotments</td>
</tr>
<tr>
<td></td>
<td>Nursery Gardens</td>
</tr>
<tr>
<td></td>
<td>Field Vegetables</td>
</tr>
<tr>
<td></td>
<td>Flowers</td>
</tr>
<tr>
<td></td>
<td>ORCHARDS with grass</td>
</tr>
<tr>
<td><strong>GRASSLAND</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improved Grass</td>
</tr>
<tr>
<td></td>
<td>Rough Land Reverted</td>
</tr>
<tr>
<td><strong>WOODLAND</strong></td>
<td>Closed Canopy</td>
</tr>
<tr>
<td></td>
<td>WATER</td>
</tr>
<tr>
<td><strong>RESIDENTIAL</strong></td>
<td>Houses</td>
</tr>
<tr>
<td></td>
<td>Commercial Businesses</td>
</tr>
<tr>
<td><strong>INSTITUTIONS</strong></td>
<td>Schools/Hospitals</td>
</tr>
<tr>
<td><strong>INDUSTRY</strong></td>
<td>Factories</td>
</tr>
<tr>
<td></td>
<td>Tips</td>
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<td></td>
<td>Utilities</td>
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<tr>
<td><strong>TRANSPORT</strong></td>
<td>Roads</td>
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<td></td>
<td>Railways</td>
</tr>
<tr>
<td></td>
<td>Vehicle Park</td>
</tr>
<tr>
<td><strong>TENDED OPEN SPACE</strong></td>
<td>Grassed</td>
</tr>
<tr>
<td></td>
<td>Derelict</td>
</tr>
</tbody>
</table>

**Scale:**

0.5km
South of the Sturry Road there has been a growth in housing as in the period 1971-1981 when there was expansion on the 1908-1949 development. Near Reed Avenue there is a site of 3 ha. part of which is still statutory allotments and part of which was the site of the old brickworks where there is planning permission for 150 houses. If this were developed for industry, the area for housing would be halved and 1 ha. would have to be found elsewhere for allotments. The tip has moved northwards. Marsh Farm (12 ha.) is no more. There has been extensive tipping some of which has been levelled to provide playing fields with the possibility of a Sports complex. But the main process in the south of Sturry Road has been housing.

Grid Sq. 160580 170580

Between 1960 and 1980 there has been little change because this is M.O.D. land. Small areas have been released for development in the south-west but it remains largely rough ground.

Grid Sq. 150580 160580

The main change has been the development of the Barracks for housing making a complete block along the Sturry Road on the southern side. Further extension of housing on the playing field of Chaucer Barracks has reduced open space so have the new District Council Offices with Car Parks and the giant Post Office Headquarters being built close to the Garrison Church. The former Gymnasium has become a Sports Centre with a Youth Club occupying the adjacent former married quarters. There is an application for planning permission for housing on some land to the north-east. The allotment gardens have vanished apart from one. They have changed mostly to business premises e.g. Castle Harris, Keymarkets, Argos and Sainsbury's all have large premises within the region. These have a considerable effect on land use. They are very large users of space not only in their retail areas but also in the associated car parks and delivery areas. Along this part of the Sturry Road one can see the most potent forces of change at work.
The Kingsmead Road with a new roundabout at its eastern end to complement a 'mini' one at the other end has become an important area of the City for recreation. The Stadium and the Swimming Pool have encroached on former open spaces. The Kingsmead Road and the other link road of Vauxhall have helped to stimulate development.

Fringe Processes in 1984

a) Industry/Warehousing
This has been one of the most important developments in the region. It has confirmed the area as truly rurban; it provides services not only to the immediate City but also to the surrounding area. It emphasises the role of the motor car and out of town shopping. Since 1960 a more dispersed pattern of retail trading has evolved. Warehousing and industrial units have increasingly been developed in this Sturry and Broad Oak Road area in the river valley south-west of the city. In fact 10% of retail turnover is now outside the city centre (Canterbury District Plan); this contributes to urban growth in a number of ways.

b) Housing
The development of housing at Hales Place and the Barracks has illustrated the importance of housing as a process in fringe formation.

c) M.O.D. land has remained in the south-east segment and has prevented development which can only take place when it is released. There have been examples of this in the Chaucer Barracks vicinity.

d) Recreation has played a bigger role, thus reflecting with speedway and swimming in particular the broader trends of society.

e) King's School Playing Fields represent educational processes as a largely conservative element in the landscape.

f) Agriculture
This is clearly a declining factor. For the most part market gardening has disappeared, only in small parcels is it existing in the face of increasing urban growth.
THE STURRY ROAD AREA DIVIDED ACCORDING TO THE
SUPERCATEGORIES. 1984.

KEY

SETTLEMENT

FARMLAND

VEGETATION

MAP 31.
Scape and Fringe Analysis, 1984

The first stage in the analysis was to divide the area into the supercategories (Map 31) according to the Coleman general land use model (1982). This is a quick approach which looks for the pattern of territory. The result of the supercategories' classification of Settlement, Improved Farmland and Vegetation is indicated. The next stage is to attempt to clarify the area into scapes and fringes. The criteria are shown in the table below:

Table 19

<table>
<thead>
<tr>
<th>Territory</th>
<th>Dominant</th>
<th>Subordinate</th>
<th>Co-dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Townscape</td>
<td>Settlement</td>
<td>Farmland Vegetation</td>
<td>-</td>
</tr>
<tr>
<td>Farmscape</td>
<td>Farmland</td>
<td>Settlement Vegetation</td>
<td>-</td>
</tr>
<tr>
<td>Wildscape</td>
<td>Vegetation</td>
<td>Settlement Farmland</td>
<td>-</td>
</tr>
<tr>
<td>Marginal Fringe</td>
<td>-</td>
<td>Settlement</td>
<td>Farmland Vegetation</td>
</tr>
<tr>
<td>Rurban Fringe</td>
<td>-</td>
<td>Farmland or Vegetation, Settlement and farm- or neither</td>
<td>land settlement and vegetation settlement. Farmland and vegetation.</td>
</tr>
</tbody>
</table>

Coleman and Catling (1982)

This is a useful approach based on the context of the land use. Its importance is that within the scapes other land uses are allowed. Within the grid squares land use has to be considered along with the land that surrounds it. There are dangers of simplification in assuming an area of 90% settlement would be Townscape whilst one containing 50% would be rurban fringe.

The results of all the necessary steps are shown on Map 32. They are striking:

(i) Above all, the area devoted to Townscape has increased
Key:
- Townscape
- Marginal Fringe
- Urban Fringe

MAP. 32.
enormously taking up much former rural fringe land. This is largely because the intensity of the urban development is too great to be classified as rural fringe.

(ii) There has been an increase in marginal fringe as agriculture has been under pressure; this is represented by much of the rough ground.

(iii) The M.O.D. land can be classified as Wildscape rather than rural fringe but this is as a result of a different classification not of a change of land use. The conclusion is that Townscape has increased at the expense of fringe areas. This must be a success for the planning authorities judged on the first criteria that scapes should increase in this way at the expense of the fringe areas. It does, however, also emphasise the continued growth of the town and the dominance of the centrifugal forces from the City. It does indicate that the City is still expanding outwards; that the Sturry Road area in 1984 is very much part of the Townscape and that new fringe areas are likely to be forming elsewhere.

Sampling

In order to add a quantitative perspective to the analysis systematic point sampling was used. This was simply because inspection only of land use maps themselves does not generate detailed statistical information. The procedure was to lay a grid of points over the area and to tabulate the categories of land use. The problem was to decide what categories to use. This was no easy task, but four were eventually chosen — Housing, Farmland and Open Space, Industry and Others. The danger of this is that Farmland can be exaggerated and small errors of land use mapping can distort the result. Nevertheless, given these drawbacks and the difficulties of comparison, this procedure was applied to the maps of both areas of 1960 and 1984. 100 points were allocated to each sample. The Table shows the results for one of the areas.
Table 20

<table>
<thead>
<tr>
<th></th>
<th>1960</th>
<th>1980</th>
<th>Proportion</th>
<th>% change in itself of whole</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>20.75%</td>
<td>30.75%</td>
<td>+10%</td>
<td>+48.19% (half as much again)</td>
</tr>
<tr>
<td>Farmland</td>
<td>30.50%</td>
<td>14.75%</td>
<td>-15.75%</td>
<td>-51.03% (halved)</td>
</tr>
<tr>
<td>Industry</td>
<td>2.25%</td>
<td>9.25%</td>
<td>+7%</td>
<td>+310.10% (more than 3 times)</td>
</tr>
<tr>
<td>Others</td>
<td>46.50%</td>
<td>45.25%</td>
<td>-1.25%</td>
<td>-2.68% (almost the same)</td>
</tr>
</tbody>
</table>

This sampling confirms the expected trends. The growth of industry and warehousing in the area has been very considerable - some 310%. Housing mainly in the Hales Place Estate and Barracks area has expanded by 48%. The Farmland has halved. Thus, the fringes show that the land can no longer really be classified as rurban fringe. The density of settlement is too great and dominant hence the growth of Townscape but before a complete evaluation can be made it would be interesting to see if there had been an outward expansion of fringe land.

Issues for the Planners

(i) The main problem for the planner is to try to organise the region into a coherent land use pattern. At the moment, despite designation of Townscape, it is a confused one. Consequently, one would suggest a much clearer zoning of land use.

(ii) There needs to be a greater consideration of the impact of the large superstore not only in terms of land use but also because of the amount of associated traffic for much congestion is caused by the flow to some not easily accessible premises.

(iii) As for Industry, the siting of such development for the whole City has been in the river valley at Wincheap and in this area of the Sturry Road. There is the stipulation in the Kent Structure Plan (1980) that no further land than at present permitted should be allocated for industry but of the 12.72 ha. designated 7.6 could not be
developed due to physical constraints at Vauxhall Road and also another site at St Stephens Road is no longer available. Both are in the area concerned. It is therefore proposed to use the Sturry Road allotments, part of former brickworks at Reed Avenue (3 ha.). On the other side towards the river near Marshwood Close 3.4 ha. may be allocated. The planners have to consider the availability of land and the attitude of the Southern Water Authority to the flood plain of the river. Other factors are the extension of the Townscape closer to Sturry and the unattractive visual impact of modern factory/warehouse type buildings in the environs of a historic heritage.

(iv) Farming at Folly Farm (9.5 ha.) is tenuous. Even though protected by covenant, it is likely to decline and perhaps give room for housing to expand on the aesthetically sensitive slope facing the City.

(v) There is too much land of a rough nature or waste which could be used in a more productive way.

(vi) Old Park is mostly owned by the M.O.D. The Howe Barracks are due to expand its married quarters provision, much of the remainder of the land provides ground for training but is farmed on grazing lines suitable for rough ground. Since 1960 about 45 ha. of the older barracks have been released. It has mostly been developed for housing and the District Offices alongside which the large Post Office Headquarters is now being built. When further land is released, the issue for the planners is whether it should be developed and, if so, in what form. If a similar procedure is undertaken for the 1930's (see Maps 33 and 34) given the nature of the data base, the following conclusions can be reached. The loss of the Farmscape has been considerable. Gradually it has been changed from Farmscape in 1930 to Rurban Fringe in 1960 to Townscape by 1984. Thus, the fringing process can be seen to have taken place over a period of 50 years. The change has been shown to be quite dramatic yet without the scape and fringe analysis this might not have been detected so easily.
THE DIVISION OF THE STURRY ROAD AREA (1950) INTO SUPERCATEGORIES.

KEY:
- Settlement
- Farmland
- Vegetation

MAP. 33.
SCAPE AND FRINGE ANALYSIS FOR THE STURRY ROAD AREA (1930).

KEY.
- TOWNSCAPE
- URBAN FRINGE
- FARMSCAPE

MAP. 34.
2. THE UNIVERSITY AREA

Land use in 1960 (Map 35)

The significant feature seen on this map is the number of educational establishments within the area. These have an important effect on land use not merely in terms of buildings but of the land which is used for playing fields. The two Independent Schools, Kent College and St. Edmunds, have them close to the buildings, the former has additional space at Rough Common. They are large areas which have prevented development and provide open space until the farmscape is reached.

The close proximity of non-urban land use is illustrated by Park and Brotherhood Woods. Nearby is a large scale housing development. Orchards which are on a good site with well drained soil make up another important land use. It should be noted that Neal's Place Farm has orchard land; to the west there is an abrupt change to woodland.

Near 40 Acres Road there is a large plot of allotments serving the adjacent urban area.

The pattern of urban development tends to be in small discrete units. This has meant that settlement of Rough Common has not linked up with the Canterbury Townscape largely because of the Schools.

Within the area there is considerable open space although farming is not of the highest quality compared to that in the south of the City.

In summary, it can be said that little development has taken place since 1945. This confirms that this area tends to be a static fringe rather than a rapidly proliferating one.
<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmland</td>
<td>![Farmland Icon]</td>
</tr>
<tr>
<td>Cereals</td>
<td>![Cereals Icon]</td>
</tr>
<tr>
<td>Horticulture</td>
<td>![Horticulture Icon]</td>
</tr>
<tr>
<td>Hops</td>
<td>![Hops Icon]</td>
</tr>
<tr>
<td>Allotments</td>
<td>![Allotments Icon]</td>
</tr>
<tr>
<td>Nursery Gardens</td>
<td>![Nursery Gardens Icon]</td>
</tr>
<tr>
<td>Field Vegetables</td>
<td>![Field Vegetables Icon]</td>
</tr>
<tr>
<td>Flowers</td>
<td>![Flowers Icon]</td>
</tr>
<tr>
<td>Orchards with grass</td>
<td>![Orchards with Grass Icon]</td>
</tr>
<tr>
<td>Grassland</td>
<td>![Grassland Icon]</td>
</tr>
<tr>
<td>Improved Grass</td>
<td>![Improved Grass Icon]</td>
</tr>
<tr>
<td>Rough Land Reverted</td>
<td>![Rough Land Reverted Icon]</td>
</tr>
<tr>
<td>Woodland</td>
<td>![Woodland Icon]</td>
</tr>
<tr>
<td>Closed Canopy</td>
<td>![Closed Canopy Icon]</td>
</tr>
<tr>
<td>Residential</td>
<td>![Residential Icon]</td>
</tr>
<tr>
<td>Houses</td>
<td>![Houses Icon]</td>
</tr>
<tr>
<td>Institutions</td>
<td>![Institutions Icon]</td>
</tr>
<tr>
<td>Schools/Hospitals</td>
<td>![Schools/Hospitals Icon]</td>
</tr>
<tr>
<td>Industry</td>
<td>![Industry Icon]</td>
</tr>
<tr>
<td>Factories</td>
<td>![Factories Icon]</td>
</tr>
<tr>
<td>Tips</td>
<td>![Tips Icon]</td>
</tr>
<tr>
<td>Utilities</td>
<td>![Utilities Icon]</td>
</tr>
<tr>
<td>Transport</td>
<td>![Transport Icon]</td>
</tr>
<tr>
<td>Roads</td>
<td>![Roads Icon]</td>
</tr>
<tr>
<td>Railways</td>
<td>![Railways Icon]</td>
</tr>
<tr>
<td>Tended Open Space</td>
<td>![Tended Open Space Icon]</td>
</tr>
<tr>
<td>Grassed</td>
<td>![Grassed Icon]</td>
</tr>
<tr>
<td>Derelict</td>
<td>![Derelict Icon]</td>
</tr>
</tbody>
</table>

Scale: 0 —— 0.5km

MAP 36.
Scape and Fringe Map, 1960 (Map 36)

The map indicates that, although a mostly rurban fringe area, the Farmscape is present in the south-west and in the north-west with a very small marginal fringe shown. Yet this area is classed as rurban fringe and is a very different area from the Sturry Road because there are different processes at work.

Processes of Fringe Formation

a) The major one is the role of education providing this conservative element in the landscape as shown in the 1960 Land Use Map.

b) Agriculture is still an important force accounting for much of the land. It is agriculture which is still profitable and forms a coherent unit. The fact that Farmscape is shown close to the urban area supports this.

c) Housing is not a major process in 1960, it is confined mostly to the development that had taken place in the 1950s. The settlement areas have not coalesced.

d) There are few service industries - the Water Tower being visually the most prominent.

e) Allotments and market gardening show agricultural adaptation to the urban environment in 1960.

Land Use in 1984 (Map 37 and Photograph No.4)

Without any doubt the most important development has been the establishment of the University of Kent at Canterbury. This occupies some 300 acres of fringe. The main impact has been that of a conservative element in land use - at least in terms of urban development and of preserving, partly in the form of an Arboretum, the
LANL USE KEY FOR 1984 MAPS.

FARMLAND
- Cereals

HORTICULTURE
- Hops
- Allotments
- Nursery Gardens
- Field Vegetables
- Flowers
- ORCHARDS with grass

GRASSLAND
- Improved Grass
- Rough Land Reverted

WOODLAND
- Closed Canopy

WATER

RESIDENTIAL
- Houses
- Commercial Businesses

INSTITUTIONS
- Schools/Hospitals

INDUSTRY
- Factories
- Tips
- Utilities

TRANSPORT
- Roads
- Railways
- Vehicle Park

TENDED OPEN SPACE
- Grassed.
- Derelict

Scale: 0.5km.
aesthetic quality of part of the northern slopes providing a backdrop to the City. There has been loss of woodland at Park Wood in order that Playing Fields and an all weather Hockey pitch could be constructed. Hothe Court Farm is now part of the University so that the ribbon development of Blean with its School is not far away. However, in terms of land use the University provides a coherent spatial unit which is not vulnerable to sprawl.

Housing now occupies a large area of land at 40 Acres Road; it had formerly been allotments. This is infilling in an urban environment. There has been a development of housing at Rough Common to provide this small settlement with considerable growth which has tended to be orientated towards the middle class. This represents the demand from professional people for residence in this sector of the City.

As the Land Use Map shows, there are few fields between the urban area of the City and this settlement. This has caused conflict between residents wishing to keep this separation and the District Council wishing to infill.

Another area of conflict is that of Neal's Place Farm (19 ha.) The land to the east used to be orchards but has now gone out of agricultural use. Of total capacity for 475 dwellings this is a site which had been earmarked by the Council for housing. As yet because of much opposition, largely based on the visual impact, no resolution has been achieved.

Scape and Fringe Analysis, 1984 (Maps 38 and 39)

As for Sturry, the area was divided into three supercategories of Settlement, Farmland and Vegetation. The result is shown on the map. Much settlement extends north-west from the City. This again follows a communication axis - the road to Whitstable. The slopes of the University constitute an area of green land which is farmed but not very intensively. To the south-west orchard land is indicated but
THE UNIVERSITY AREA DIVIDED ACCORDING TO THE
SUPERCATEGORIES. 1984.

KEY:
- Settlement
- Farmland
- Vegetation

MAP. 58.
pockets of rough ground are interspersed with the Farmland. The Scape and Fringe division of the area is shown on the map. It is interesting to compare the changes with the map of 1960. They are:

(i) Townscape has increased considerably from the central City. In the south of the area it is almost exclusively residential.

(ii) The Farmscape previously shown on the 1960 map has declined into marginal fringe. This is due to (a) urban encroachment from Rough Common (b) the fact that the area is not of prime agricultural importance (c) units having lost their viability (d) the physical terrain making it difficult because there is a steep valley near the Dell.

In the north the Farmscape is no longer uninterrupted but nor is the density of settlement sufficient to be classed as Townscape, hence the denoting of rurban fringe. This category also covers the School and University land.

(iii) Although the area shows less dramatic land use change than the Sturry Road, nevertheless change has taken place with the conversion of fringe land to Townscape. It represents a physical growth of the City.

University Area in the 1930's (Maps 40 and 41)

The comparison with the 1930's shows that the Townscape has been consolidated and extended whilst there has been a dramatic loss of Farmscape. Since 1930 some Farmscape has changed into rurban fringe; some rurban fringe has changed to Townscape and marginal fringe as former Farmscape has degenerated into vegetation i.e. rough ground.

Sampling

The description of this process is contained in the Sturry Road
THE DIVISION OF THE UNIVERSITY AREA (1930) INTO SUPERCATEGORIES.
KEY.

- **TOWNSCAPE**
- **URBAN FRINGE**
- **FARMSCAPE**
section. It is now applied to this area with 100 points as before being given to the sample. The results were:

Table 21

<table>
<thead>
<tr>
<th>Land Use Change (University Area) 1960-1984</th>
<th>1960</th>
<th>1980</th>
<th>Change</th>
<th>% of whole area</th>
<th>% of category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>28.7%</td>
<td>32.9%</td>
<td>+4.2%</td>
<td>+14.6%</td>
<td></td>
</tr>
<tr>
<td>Farmland/OS</td>
<td>63.3%</td>
<td>52.2%</td>
<td>-11.1%</td>
<td>12.3%</td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>39%</td>
<td>32%</td>
<td>-.07%</td>
<td>-17.9%</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>7.7%</td>
<td>14.6%</td>
<td>+6.9%</td>
<td>+89.6%</td>
<td></td>
</tr>
</tbody>
</table>

The above does confirm some of the points that have already been made. Farming and Open Space have declined but the major part has been accounted for not by Housing (4%) but by other activities (7%). This underlines the importance of choice of category e.g. the built-up part of the University campus was classified as other activity. Similarly, Open Space was added to the Farmland so there would tend to be an exaggeration of the latter. In reality, Brotherhood, Beverley and Hothe Court are no longer farms within the region.

In this way the sample method can be a helpful guide but for calculating area of land use is not very accurate and percentage figures are best employed to confirm rather than to constitute a prime base unit.

Issues for Planners

(i) Because there is a need to find new housing, areas of open space are always considered as possible sites for this. Neal's Place Farm appeared to be close to existing Townscape, furthermore it was being farmed on licence. However, because of vigorous opposition on landscape grounds, this form of development seems rather more unlikely.

(ii) Residents of both Canterbury and Rough Common are concerned
that the two settlements do not join - Rough Common wishing to remain as a separate entity.

(iii) Given that the area is also dominated by educational establishments, the planners have little flexibility.

(iv) The lack of space available has meant that land within the existing urban area has been used more intensively e.g. Forty Acres Road. This accounts for the growth in Townscape in the scape and fringe map.

(v) The area can rightly be viewed as static fringe with infilling of the Townscape and limited change in land use from 1960. However, as the sampling indicated, this does not mean no change at all.

(vi) Really, the only possible sites for housing development are in the south-west corner of the map indicated by the rough ground the Grove. But this is sloping and would not be easy for building development.

Map 42 shows a series of the Townscapes to summarise the findings of the scape and fringe techniques. For the Sturry Road area it can be seen that the major growth in the Townscape came in the period from 1960 to 1980 with little growth between 1930 and 1960. This is essentially correct but some caution needs to be added. Between the 1930 period and 1960 there had been a considerable loss of farmland and by 1960 there was a very much larger component of fringe land shown. The intensity of the classification of Townscape seems to have varied in the Coleman and Shaw classification of 1960 from that used by Stamp in 1930. Hence, there tends to be an over-emphasis of built-up area shown in 1930. However, this is a minor point and stems from the basic differences in the data bases.

In the University area there is a consistent pattern of growth
SUMMARY MAPS TO SHOW THE GROWTH OF TOWNSCAPE WITHIN THE CASE STUDY AREAS.

Sturry Rd. Area.

University Area.

Towndcape. Other Land Uses, i.e. Wildscape, Fringe Areas.

Scale: 0—1 km.
shown; again it was between 1930 and 1980. The area had hardly been developed at all in 1930 being mostly Farmscape. Despite growth in the Townscapes it has far less fringe than Sturry.
3. CONCLUSION

The scape and fringe approach developed by Coleman (1982) has been a valuable contribution to the study of rurban areas and in analysing how the fringe areas change in their land use pattern. This is particularly so when land use maps are available for comparison over periods of time. Some of the problems on these maps which are critical to the analysis include the choice and allocation of land use categories because a strict set of rules has to be applied consistently otherwise results will vary considerably.

The trend of the scape and fringe analysis for each of the two areas has shown an intensification of land use. On the one hand, this would be classed in the Sturry Road as a proliferating fringe but decreasing as it becomes Townscape and is obviously a functional fringe. On the other, perhaps, the University area would be classified as static fringe with some infilling and educational open space remaining.

Furthermore, the need for land use data is highlighted as sample surveys of other areas undertaken in the 1970's tend to indicate the rate of land use deterioration seems to be increasing (Balchin 1980). In this context it is apt to conclude that the role of mapping is vital.

"Without the facts on the map, many of these deleterious trends would have been completely overlooked. It is now essential to produce an up-to-date map of each area in order to provide factual data with which to prevent the continuation of land misuse"

Balchin, 1980
CHAPTER 4

LESSONS AND FUTURE PLANNING POLICIES

A STRATEGY FOR CANTERBURY

In the previous chapters the detailed problems affecting the rural-urban fringe of Canterbury have been outlined. One of the important tasks is to try to evaluate whether the strategy is a correct one for Canterbury, given the already established information. Quite clearly not all are agreed and one ratepayer writes:

"I trust that the people of Canterbury reject this shoddy and unimaginative document by registering their dissent, using the objection form provided for this purpose."

(M. Harper, Kentish Gazette, June 24th, 1983)

The evaluation of the plan has to be with reference to the whole strategy as most planning documents will have parts of land use policy that will not suit everybody. Thus, the evaluation must be on a broad scale with reference to the County strategy and even national goals.

The planning system has evolved so that there is the system of a County Structure Plan to be approved by the Secretary of State and then followed by the District Plans. The Structure Plan provides the general policy and proposals with key diagrams; reviews of resources; surveys of population, of economic activity, of development of land use and of transportation policy.

This indicates the importance of viewing Canterbury in relation to the County. Previously the County has been affected by regional policy i.e. 'Strategic Plan for the South East (1971 - revised 1978)' and this in turn ultimately by national policy. In addition, the County is affected by neighbouring local authorities, not least by the G.L.C. which creates reactions in the neighbouring counties e.g. overspill
policy and decentralisation. Demonstrably, therefore, the Structure Plan is not an isolated unconnected item; it sets the parameters within which a District Authority must operate.

The Structure Plan has had to consider the following national issues:

(a) The state of trade and travel with the E.E.C.
(b) The national reaction to economic recession.
(c) The Government housing policy - support of new houses, rehabilitating old ones, home ownership and the relief of the inner cities.
(d) The aim to have a better balance nationally of industrial employment.
(e) The control of office development (this adversely affects Kent as moving out of London is now discouraged though it has not ceased).
(f) The investment in Transport facilities - the M20, M25 and M26 among others.
(g) The protection of good Agricultural land.
(h) Conservation of natural beauty.
(i) The provision of mineral resources for building with minimal detriment to the countryside.
(j) The stimulation of the economy to provide employment.

Almost every one of these aims has some bearing on Canterbury. Obviously, some are more applicable than others.

One important factor is the demographic pattern. The Regional and G.L.C. policies have tended towards dispersal but are now being superseded by renewal of inner cities. Migration into Kent was at an average rate of 20,000 p.a. in 1961-71, there was a decline between 1971-81 (Summary Report of Survey District Plan). Furthermore, there are national trends in birth and death rates which would seem to indicate only a slow increase in population.
Population figures do not translate directly into new housing demand. The salient figure is the number of new households and their social requirements. Bearing in mind the ages of the population and the existing housing stock, Mid Kent, Tonbridge and Canterbury are seen as areas under pressure.

With regard to County economic activity Canterbury is considered as one of the areas to have longer term growth potential which would be reduced if service sector employment declined. Canterbury's population has increased more than new employment and hence jobs will be an important factor.

Transport produces more pressure. The M2, M20, M25 and M26 have all made the County more accessible. Canterbury is on the main route to the Continent. At least the opening of the By-pass has helped to reduce some of the traffic pressure but there is still the problem of the east/west route through the City.

The Structure Plan has to try to suggest answers and to lay down the principles for Canterbury to follow. For the whole County they are based on the twin themes of economic development and conservation; consequently, the Plan needs to identify development in areas which can take the pressure and in turn conserve those areas which provide a national heritage.

Canterbury, as a result of its historic nature and its position at the heart of the tourist industry, will not be designated for growth. This is because there are too many conservation constraints:

(1) The historic City and Cathedral with the special features of the built environment.

(2) The North Kent Horticultural belt which penetrates the urban area and is recognised as an A.S.S.A.
(3) The North Downs whose ridge runs within a few miles of the City and is designated an Area of Natural Beauty.

(4) The Blean Woods which, because it represents one of the few areas of natural woodland, is designated an Area of Special Scientific Interest.

These elements illustrate how strong the compulsory conservation ethic is around the City. Every plan, consequently, has to be mindful of this. Development is being sought outside the environs of the City e.g. housing is being diverted to the coastal towns of Whitstable and Herne Bay. Whilst these towns can meet their housing requirements, Canterbury cannot. Therefore development needs to be slowed and further pressure avoided so that 'green field' sites do not have to be used.

It is the object of the District Plan to attempt to carry out the direction of the national, regional and County strategy. The closeness to which the District Plan adheres to it must now be evaluated with reference to the rural-urban fringe.

The Council commissioned a separate conservation study to identify the unique character of the City. These pointed to special features of (1) landscape setting (2) the approaches (3) the City Wall etc. As a result, in 1974 the Canterbury Conservation Area No. 1. was formally accepted as being of 'Outstanding National Interest'. It was hoped to extend this area to the Victorian suburbs. However, a city cannot survive on a totally negative freeze, therefore positive management of resources has a vital part.

The impact of Tourism is important – a tourist industry of some 1.5 million visitors plays a significant role in the City's economy. More facilities for tourists are required e.g. more caravan and camping facilities and more self-catering accommodation. The Bekesbourne site is an example of this and the Motel site at the By-pass junction
between Canterbury and Bridge another. Both of these involve encroachment on the A.S.S.A., although it can be argued that some encroachment can already said to have taken place.

There is also a need for car parking and coach parks; inevitably these are tending to become sites which are further out from the City. This is an attempt to cope with not just tourist traffic but local traffic for daily work as well. Indeed, the pursuit of most economic activity creates traffic.

From this one dilemma clearly arises - the issue of the location of new major stores in the centre or the suburbs. Any significant degree of such development in the latter would reduce the turnover and viability of the centre. The major retail centre is important but enlarged superstores in the centre create greater traffic problems in terms of access for goods and people. Therefore it seems that some new stores will be built in the fringe areas. Along the Sturry Road this has already taken place e.g. Keymarkets.

Additional space is also required for some industry and new sites are outside the walls. In fact, no further land is designated for industrial purposes except for the needs of local firms. Because of the City's nature as a sub-regional centre it has meant storing many of the goods for East Kent so this warehousing is important. It is a heavy user of space but light on employment opportunities. In consequence, the City is trying to encourage manufacturing firms. Any new firm has implications for traffic generation, therefore location must be in line with the District Plan proposed. Further development is somewhat restricted e.g. areas of the City where residential housing or educational facilities are not compatible land uses for it. The areas close to the river provide the most likely sites despite the difficulties of the flood plain.

The ramifications of a policy of restraint are considerable. The figures for unemployment are not easy to state with conviction and
accuracy. The District Plan is looking to provide 2,000 jobs in the next eight years. This now seems to be an even more difficult task. There is some evidence to suggest that the service sector of industry will not always provide the number of jobs and they could well decline or, at best, cease to grow.

Perhaps the pressures of restraint are felt most in the housing sector. The need for a further 2,800 houses by 1991 has to be met. This is caused largely by net migration and 500 houses must be built on 'green field' sites. It is proposed to find the space at Neal's Place and Ridlands Farms. Neal's Place Farm does not really conform to the Structure Plan because it causes detriment to the environment of the northern hills. However, it will have probably the least environmental impact than other areas. In fact, it could be said that 'green field' sites are difficult to find because the University in the north occupies a very large area linking with the reservation farther east for the Broad Oak Reservoir.

In terms of both recreation and education the District Plan is carrying out the Structure Plan. A sports complex has been decided upon. Playing fields are being constructed. Informal recreation for all, resident and tourist, is being provided by the Riverside Walk which will be protected from further development.

Thus, to a considerable extent the District Plan has carried through the policies of the Structure Plan. Yet the planning process seems to be remote.

"Once again the planning mandarins and other shadowy figures have in their collective wisdom tried to interpret the needs and aspirations of this City for the next 10 years. But how disastrously have they misread their crystal ball."

(Kentish Gazette, June 24th, 1983)

The comment refers to a particular proposal concerning the
relocation of allotments. It is unfair to judge the District Plan by individual proposals - it has to be seen as a collective set of them. To produce a plan for 10 years ahead is no easy task and it has to be flexible enough to allow for changes. It may be that the problem is that people are not being made aware early enough of the proposals. They, apparently, are only aware when the plan is somehow publicised or when it is too late. There is an obligation on the Planning Authority to try to get people involved but this is often a very difficult task despite some praiseworthy efforts.

There is also an obligation on the public to be involved. The criticisms of the Plan being shoddy and unimaginative are unfair. There has been a considerable input of resources to produce the Plan - Draft Statements, Surveys, Strategies and Choices - so that the accusation will not be supported by fact. The Plan is always about making a balance between options for the good of the community. At the present the good of the community rests with local representatives. If they are felt not to be representing the local interests then there can be a clear answer in the ballot box.

The final question is to consider what the role of the geographer can be in helping at this scale of analysis and whether he can contribute to the decision making process.

Perhaps the first stage at which geographers can contribute is in problem identification and analysis. The geographer ought to be able to consider the area and state that these seem to be the main problems. Accordingly, in Canterbury the types of problem would be, firstly, one of conservation of a historic city vis a vis the demand to provide jobs and housing; secondly, to try to reconcile these needs in an outstanding agricultural area.

The second task of the geographer is to collect information to help the study of what in the first place would have been cursory observation. It is through this process that analysis and evaluation
can take place. In the analysis the geographer would presumably bring
the technique of data presentation. The data would then be presented
and the results contributed to the decision making process. It is
probably in the last phase of decision making that geographers have not
achieved as much as they should have. There has been a school of
thought that geographers should remain outside this process so that
academic status is preserved.

Nevertheless, society expects various disciplines to contribute
and they must be seen to be doing so. In the case of geographers,
therefore, they do need to be involved without reluctance in issues and
it is quite proper they should be. In no way does this diminish their
status, rather does it enhance it. Consequently, it is fitting that
one concludes that the strategy the City Council propose to adopt is a
correct one. There can be improvements; these should be fought for and
changed. It is through this process of debate that emerges both reason
and, hopefully, a better environment for the people of Canterbury in
which to live. The study should have shown that the fringe is an
important region to enable this goal to be achieved.
CONCLUSION TO THE STUDY

In a conclusion it is important to try to present the observations made from the whole study. It is logical, therefore, to consider the initial points in the introduction, the aims of the research programme and an evaluation of whether any of these preliminary thoughts need to be modified in the light of investigation and experience.

It was stated that the rural-urban fringe provided a challenge. This has certainly been shown to be true. It is a challenge to all branches of society because so many of the facilities required for daily living can be found in the fringe. It has manifested itself in the complexity of land uses which have resulted in a much more complicated spatial pattern. Accordingly, the most obvious challenge it presents is in the spatial organisation of land use, both in terms of management of present uses and in future land allocation. This challenge has to be met by the planners who bear the responsibility of presenting the choices and strategy for the community. Yet, despite their major influence on land use decisions, there are statutory bodies largely outside the system. The decision making process has, as a result, a number of inputs whether it be residents, farmers, statutory bodies, voluntary organisations or individuals. All of these have varying attitudes and not all are likely to be compatible. Ultimately the planners are faced with conflict, choice and the production of a strategy.

The allocation of land is extremely important because one restates the belief that the fringe areas will have to absorb an ever increasing demand from the City. In general, the decline of the Inner city and the cramped conditions for industry have meant that there has been a demand for space. This is to be found on the periphery. The nature of this demand will greatly affect the environment. In some cases, such as water, it could completely alter the landscape, if it is industry there are secondary effects not least in the communications required to serve the new generation of traffic.
The Planning issues which face Canterbury and which have produced pressure on the fringe are as follows:

(i) The fringe is not a unified spatial area and as a result it is difficult to plan. This is reflected in the former local Government boundaries when the City Council was then surrounded by a Rural District Council responsible for numerous heterogeneous units. The Council then has less control of some of the developments - particularly those concerned with ribbon development. It also has an effect on the concept of the planning region. The study has shown examples where the spatial unit has not met the functional need. Indeed, there is a strong argument that Canterbury should be planned as part of an East Kent Planning Region. Whilst there is this problem over the size of the planning area, there will always be a difficulty in controlling some of the relevant forces which shape the fringe. The concept of the City region is valuable only if the region around the City is large enough i.e. it is a functional unit. This dilemma is likely to become more apparent as the pressure on the fringe areas increases.

(ii) The effect of the strong conservation policy both by the County and City Councils has restricted growth of the City. The County has influenced the deflection of industry away from it; in harmony with this the City Council has been concerned with conservation of the historic core and by land use issues which affect the physical landscape. National and County policy is further illustrated by the designation of A.O.N.B., S.S.I., and the Area of Special Significance for Agriculture. This causes increased pressure or even confrontation between central city and farmscape conservation. This takes place in the fringe.

(iii) It should be remembered that Planners are not operating on a blank area for there are both physical and human factors which are already determined. The physical location of rivers, hills and valleys have affected the development of Canterbury e.g. particularly the flood
plain of the Stour which at first prevented building in the past and now provides gravel for construction. There are also the effects of man made fixation lines, railways and roads. The map of Canterbury indicates how these lines provide barriers to development as well as dividing the area into spatial units. The By-pass, for instance, was indeed shown to be somewhat of a target for development. Although it might not express itself so obviously in terms of land use, there are economic pressures which are upon the City as a regional centre and also those which the broader forces placed upon it as a result of the position in relationship to the E.E.C.

(iv) It is interesting to note the part that history has played in the modern day planning situation. The planning policy is very much based on the preservation of the Cathedral City. The City also illustrates the evolutionary nature of towns viz. at first a nucleated settlement with no fringe - the town joining the farmscape - but, then, with the growth of trade, population and transport, expansion began. The City wall provided the first fixation line; the nineteenth century development was exemplified by the railways and the twentieth century by motorways. All of these help to structure the land use pattern and in some cases almost fossilize it.

(v) The demands of urban society require large amounts of land. The population do not wish to have high density living which would also be contrary to conservation policy. Furthermore, partly because of the high middle class component they require space in the form of gardens hence a peripheral location is sought. This also links with current trends of counter-urbanisation where the inner cities are rejected in favour of fringe locations. Living conditions, though, are not the only demands placed upon the fringe. The urban society requires space for recreation both formal and informal. This reflects also the national trends of more leisure time and the quest for fitness. It was noted that by national standards there is a deficiency of land for recreation. In addition, there are demands for the various services which are required to keep an urban society functioning. There can be
little doubt that these have increased. There are concerns that the City without a new reservoir will face water shortages. Less dramatic are services such as gas, electricity and rubbish dumps for all of which space has to be found. The policy of putting them in the fringe so that they will be little noticed will end because the fringe will be increasingly a part of the City.

All of the above are illustrations why the land use battles will more likely take place in the fringe. Ultimately the results will be political decisions in the sense that elected representatives will make them. The concern is that they should have all the information available to them and that they should try to take a wider even a regional point of view. There seems at present too much emphasis still on small scale physical planning, particularly in the case of many council chambers. It must be recognised that these services are required unless a radical change in lifestyle were to ensue and so it is a question of finding the least unsuitable site. The task of planning in the next twenty years should not be underestimated either in importance or difficulty.

Following from this, it is clear to see that the fringe is a dynamic area. Land use changes and, as a result, so do the spatial patterns. Often the priorities of the decision makers are changed due to the constraints imposed by financial resources. Thus, the processes which shape the fringe interact over time and result in some places in a seemingly static fringe whilst in other a proliferating one. The fringe interacts with all other parts of the City and it is not a separate entity. Indeed, one could state that without understanding the rest of the City it is difficult to understand the fringe. This justifies the broad approach taken by the study.

The introduction stated the need for integrated approaches. It can be seen that the only way to understand the fringe is as part of the whole city system. It is easy to state this need but in practice it is far more difficult to achieve. Too often one is concerned about detail
of a disparate part of the city forgetting that not only is it a part of the city system but the city, too, is linked to the surrounding area. It is hoped that the study has shown these links clearly existing at Canterbury.

The study has presented geographical enquiry and illustrates that it does not always yield expected results. There was, it has to be related, only partial success in the farm survey because of the inability to achieve a full response to the questionnaire. Some of the farms were company farms, consequently local managers were reluctant to give details. Nevertheless the survey did confirm and enhance some points e.g. over trespass damage. A further point which should be mentioned is the lack of information from Government bodies. This was particularly so of land use data where no Authority could provide actual figures for the loss of agricultural land in Canterbury nor give easily precise figures for the number unemployed as they were dependent upon Social Security benefit figures. Both of these problems are largely as a result of the nature of the way in which data is collected. On the agricultural census it is possible to determine the amount of land which has ceased to be in agricultural use but it does not show what the land has changed to.

The land use mapping which was undertaken in the fringe was found to be difficult; the only sure way of mapping was to visit the area. There were difficulties, in some cases, in assessing what the land was used for. In fact, it was dangerous to classify wasteland although sometimes the land did not appear to be used for anything. The main aim of the mapping was achieved; it certainly highlighted the areas dominated by educational institutions, agriculture and public utilities. A further problem was to try to assess the level of detail; Coleman and Shaw (1980) name three levels of mapping scale, namely, curtilage, colour mapping and convention mapping. In the event no one of these classifications on their own was exactly suitable. The main one used was in colour mapping which shows the major type of land use category. However, it serves to demonstrate that there are problems in land use mapping.
One of the main aims of the study was to assess the processes operating in the fringe. The seven processes were considered, namely, agriculture, industry, population and housing, transport, services, recreation and planning. All of these seemed to play an important role in land use change. Yet, although these were the results of the decision making process, it was clear that there were more fundamental reasons why there had been a change in land use.

These processes were not measured easily because they did not confine themselves to one tangible result. They can be broadly identified as social, economic, historical and political. An illustration can be shown by the national trends in recreation which encourages more people to demand more leisure opportunities, or, similarly, the raising of the school leaving age and the requirement of more land for facilities. Conversely, the falling rolls in schools now means that less land is needed for educational buildings. Specific to Canterbury there is also its prominent location on one of the national routeways via a via the E.E.C.

The significant point to establish is that a study of the fringe should look at different scales of analysis. The first is to identify the initial processes which seem to exert considerable influence and then to consider the structural reasons why these processes are taking place.

The Empirical Case Studies were shown to be valuable examples of the results of the processes operating in the fringe. The contrasting areas were the Sturry Road and the University. The importance of them is that on a superficial appraisal it could be noted that the fringe areas are expanding. The two case studies showed that the area of Townscape had grown at the expense of fringe land. It should be noted that the classification was undertaken only at an elementary level as proposed by the Fringe/Scape analysis (Coleman 1983). However, it does highlight the need for many empirical case studies to illustrate the processes of fringe formation.
Three other significant general points should be made:

(i) The local authority planning region is shown not to cover the whole of the functional fringe area indicating that the planning area does not meet the requirements of the spatial unit.

(ii) Perception of the fringe is important because different groups and organisations view the fringe in different ways. These conceptual differences would greatly affect the management of the fringe if any one group was dominant on the decision making bodies. There is considerable scope for research in analysing people's attitudes to the fringe.

(iii) The structural features of the fringe can be identified as being the fundamental reason for land use change and hence the main set of processes. The study demonstrated how the structural aspects could affect land use change in the fringe i.e.,

(a) the political forces which affect the decision making process and ultimately the land allocation through regional and local government;

(b) the economic forces which in some ways determine the land allocation through supply and demand;

(c) the social forces which illustrate how segregation of groups occur and how their demand for land use differs;

(d) the historical forces which influence many cities and which determine their form, namely, by the above processes operating through time.

The above factors indicate that any radical change that is needed in the management of the fringe must include control of these features.
The study began with the translated quotation "we learn the value of a thing when we have lost it." That is somewhat of a sad indictment of his society from the Roman Senator but in land use studies of today it is often proved correct. The fringe provides an opportunity to manage society's demands. This must be grasped before events have overtaken the decision making process. In some areas of the country society is now paying the price in environmental terms for the lack of management and planning, for example, the nineteenth century coalfield locations.

The fringe needs to be recognised as the important part of the city and as a resource, for it can provide the recreation, the agriculture and the services required if managed. If we fail in this task then the fringe will become the city's waste area environmentally, socially and economically; this will result in the decline of the city as we know it. The need is becoming urgent. We must not allow Seneca to be proved correct.

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APPENDIX A
FARMING NEAR URBAN AREAS
SURVEY QUESTIONNAIRE

NAME OR TOWN OR URBAN AREA __________________________

DETAILS OF FARM:

Present average ____________________

Size of business (acres) ____________ Type of Farm ____________

Date of occupation if less than 3 years ago ____________________

LOCATION OF FARM

Q.1. IS THE FARM ADJACENT TO OR SURROUNDED BY DEVELOPMENT?

Q.2. IF Q.1. = YES, GIVE KIND(S) OF DEVELOPMENT.

Q.3. IF Q.1. = YES, GIVE TYPE(S) OF BOUNDARY BETWEEN FARMLAND AND DEVELOPMENT.

Q.4. IF Q.1. = NO, GIVE:
   A. MINIMUM DISTANCE OF FARMSTEAD FROM DEVELOPMENT
   B. MINIMUM DISTANCE OF FARMLAND FROM DEVELOPMENT

Q.5. ACREAGE OF FARM:
   A. AT PRESENT
   B. THREE YEARS AGO

Q.6. FORM OF TENURE:
   A. AT PRESENT
   B. THREE YEARS AGO

Q.7. LAYOUT OF HOLDING:
   A. AT PRESENT
   B. THREE YEARS AGO

Q.8. IF THE FARM IS NOT/WAS NOT IN A CONTINUOUS RING FENCE, STATE NUMBER OF FRAGMENTS:
   A. AT PRESENT
   B. THREE YEARS AGO

Q.9. DETAILS OF CHANGE(S) OF ACREAGE OF FARM:
   A. LOST TO DEVELOPMENT
   B. SOLD TO OTHER FARM(S) AS A RESULT OF DEVELOPMENT
   C. RENTED TO OTHER FARM(S) AS A RESULT OF DEVELOPMENT
   D. SOLD OR RENTED TO OTHER FARM(S) - OTHER REASON(S)
   E. GAINED FROM DEVELOPMENT (e.g. BY RECLAMATION)
   F. PURCHASED FROM OTHER FARM(S) AFFECTED BY DEVELOPMENT
   G. RENTED FROM OTHER FARM(S) AFFECTED BY DEVELOPMENT
   H. PURCHASED OR RENTED FROM OTHER FARM(S) - OTHER REASON(S)
   J. DESIGNATED FOR DEVELOPMENT IN AN APPROVED DEVELOPMENT PLAN
Q.10. SOURCE(S) OR DESTINATION(S) OF AGRICULTURAL LAND
   A. SOURCE(S) OR ADDITION(S)
   B. DESTINATION(S) OF LOSS(ES)

Q.11. HAVE YOU CHANGED YOUR FARMING SYSTEM BECAUSE OF LOSS OF LAND DUE TO DEVELOPMENT?

Q.12. IF Q.21 = YES, STATE:
   A. ENTERPRISE(S) AFFECTED
   B. EXTENT OF CHANGE
   C. EFFECT ON MECHANIZATION OF ENTERPRISE(S)
   D. EFFECT ON FIXED EQUIPMENT FOR THE ENTERPRISE(S)
   E. ESTIMATED VALUE OF ADDITIONAL OR REDUNDANT MACHINERY
   F. ESTIMATED VALUE OF ADDITIONAL OR REDUNDANT FIXED EQUIPMENT

Q.13. HAS THE DEVELOPMENT RESULTED IN SEVERANCE OF YOUR FARM?

Q.14. IF Q.23 = YES, STATE:
   A. EXTENT OF SEVERANCE
   B. ROAD DISTANCE BETWEEN SEVERED LAND AND FARMSTEAD
   C. EFFECT ON MANAGEMENT

Q.15. HAS THE DEVELOPMENT PERMANENTLY AFFECTED THE PRODUCTIVITY OF THE FARM OTHER THAN BY LOSS OF LAND OR SEVERANCE?

Q.16. ARE YOU BEING INHIBITED FROM FARMING THE LAND IN THE WAY YOU WOULD WISH BY UNCERTAINTY AS TO WHETHER YOU WILL LOSE IT TO DEVELOPMENT?

Q.17. IS THERE A PUBLIC FOOTPATH ACROSS YOUR FARM?

Q.18. IF Q.27 = YES, STATE:
   A. WHAT SECTIONS OF THE PUBLIC USE THE FOOTPATH(S)
   B. FREQUENCY OF USE

Q.19. WHAT IS YOUR ATTITUDE TOWARDS PUBLIC FOOTPATHS ACROSS FARMLAND?

Q.20. HAS THE DEVELOPMENT RESULTED IN DAMAGE THROUGH TRESPASS?

Q.21. IF Q.20 = YES, WHAT KIND OF DAMAGE HAS BEEN CAUSED?

Q.22. IF Q.20 = YES, STATE:
   A. WHERE TRESPASS MAINLY OCCURS
   B. WHEN TRESPASS MOSTLY OCCURS
   C. WHO ARE THE MAIN TRESPASSERS
   D. MAIN REASON FOR TRESPASS
   E. HOW MANY CASES OF HARMFUL TRESPASS YOU SUFER IN A YEAR
   F. WHETHER TRESPASSERS HAVE BEEN RUDE OR THREATENING
   G. YOUR ESTIMATE OF ANNUAL COST OF DAMAGE RESULTING FROM TRESPASS

Q.23. HAVE THE EFFECTS OF TRESPASS CAUSED YOU TO CHANGE YOUR SYSTEM OF FARMING?
Q.24. IF Q.23 = YES, STATE:
   A. ENTERPRISE(S) AFFECTED
   B. EXTENT OF CHANGE
   C. EFFECT OF MECHANIZATION OF ENTERPRISE(S)
   D. EFFECT ON FIXED EQUIPMENT FOR THE ENTERPRISE(S)
   E. ESTIMATED VALUE OF ADDITIONAL OR REDUNDANT MACHINERY
   F. ESTIMATED VALUE OF ADDITIONAL OR REDUNDANT FIXED EQUIPMENT

Q.25. HAS THE EFFECT OF TRESPASS CAUSED YOU ACTIVELY TO CONSIDER LEAVING THE FARM?

Q.26. DOES YOUR FARM SUFFER FROM ATMOSPHERIC POLLUTION?

Q.27. DOES THE DEVELOPMENT PROVIDE A SOURCE OF SEASONAL OR CASUAL LABOUR?

Q.28. IF Q.27 = YES, STATE:
   A. TYPES OF PERSON EMPLOYED
   B. JOBS ON WHICH EMPLOYED

Q.29. DO YOU OR ANY MEMBERS OF YOUR FAMILY HAVE A JOB IN THE TOWN?

Q.30. IF Q.29 = YES, STATE:
   A. PERSON(S) EMPLOYED
   B. NATURE OF EMPLOYMENT
   C. TYPE OF EMPLOYMENT
   D. WHERE PERSON(S) RESIDES

Q.31. DOES THE DEVELOPMENT PROVIDE YOU WITH A DIRECT MARKET FOR PRODUCE?

Q.32. IF Q.31 = YES, STATE:
   A. MAIN KINDS OF PRODUCE SOLD
   B. WHETHER SALES ARE SEASONAL OR REGULAR THROUGHOUT THE YEAR
   C. EITHER OR
      The approximate value of the total sales per year
      The percentage they form of your total income

Q.33. HAS THE NEARNESS OF THE DEVELOPMENT RESULTED IN ANY OTHER GAIN IN INCOME?

Q.34. IS THE DEVELOPMENT AN ASSET TO YOU OR YOUR FAMILY?

Q.35. HAS THE DEVELOPMENT AFFECTED DISPOSAL OF FARM EFFLUENT AND SLURRY?

Q.36. HAS THE DEVELOPMENT AFFECTED SUPPLY OF WATER AVAILABLE FOR AGRICULTURAL USE?
<table>
<thead>
<tr>
<th>LOCATION OF FARM</th>
<th>SIZE OF FARM 1982</th>
<th>SIZE OF FARM 1979</th>
<th>ACRES LOST</th>
<th>ANY FRAGMENTATION</th>
<th>IS THE FARM ADJACENT TO URBAN DEV.</th>
<th>DETAILS OF BOUNDARY BETWEEN FARM AND URBAN DEV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LITTLE BARTON FARM</td>
<td>750</td>
<td>700</td>
<td>50</td>
<td>NO</td>
<td>YES HOUSING DEVELOPMENT</td>
<td>HEDGE</td>
</tr>
<tr>
<td>NEAL'S PLACE FARM</td>
<td>100</td>
<td>130</td>
<td>30</td>
<td>YES</td>
<td>YES HOUSING, COUNCIL ESTATE, BY-PASS</td>
<td>ANTI-PERSONNEL FENCE WHERE POSSIBLE</td>
</tr>
<tr>
<td>MERTON FARM</td>
<td>400</td>
<td>420</td>
<td>20</td>
<td>YES</td>
<td>HOUSING, SCHOOLS, (3 ACRES) HOSPITAL, (4 ACRES) BY-PASS CUTS RIGHT THROUGH THE MIDDLE</td>
<td>HEDGE MARKED BY CART TRACK AND FOOTPATH</td>
</tr>
<tr>
<td>NACKINGTON</td>
<td>730</td>
<td>750</td>
<td>20</td>
<td>YES</td>
<td>YES, FARM ADJOINS HOUSING AT S. CANTERBURY. 15 ACRES LOST TO DEVELOPMENT.</td>
<td>FENCE</td>
</tr>
</tbody>
</table>
## Table 2.2 (cont)

<table>
<thead>
<tr>
<th>Farm</th>
<th>Have You Changed the Farming System Because of Loss of Land to U. Dev.</th>
<th>If Fragmented By U. Dev. - Give Details</th>
<th>Do the Public Have Access to the Farm</th>
<th>What Is Your Attitude to the Public Having Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little Barton Farm</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No objection to use of footpath if public would stick to them</td>
</tr>
<tr>
<td></td>
<td></td>
<td>YES, 13 acres lost. The distance between road and second plot of land 1 mile. Management greatly affected.</td>
<td></td>
<td>WALKERS ARE NO PROBLEM EXCEPT FOR SPREADING DISEASE. VANDALS HAVE ACCESS AND NEED TO BE STOPPED.</td>
</tr>
<tr>
<td>Neal's Place Farm</td>
<td>No</td>
<td>YES</td>
<td>Yes</td>
<td>FOOTPATHS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11 acres lost to the by-pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merton Farm</td>
<td>No</td>
<td>Yes</td>
<td>BY MANY FOOTPATHS</td>
<td>ONE OF RESIGNATION - A FACT OF LIFE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11 acres lost to the by-pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nackington</td>
<td>Yes, much of the enterprise is affected</td>
<td>BY-PASS HAS SPLIT THE LAND AND THEREFORE HAD TO ADJUST</td>
<td>YES</td>
<td>SHOULD BE DIVERTED OUTSIDE FIELDS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HAS DAMAGE BEEN CAUSED BY TRESPASS</td>
<td>KIND OF DAMAGE CAUSED</td>
<td>WHO ARE THE MAIN TRESPASSERS</td>
<td>HOW MANY CASES P.A.</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>LITTLE BARTON FARM</td>
<td>YES</td>
<td>FENCES CUT, TREES DESTROYED, EQUIPMENT DAMAGED, VANDALISM, BEEHIVES OVERTURNED</td>
<td>TEENAGERS</td>
<td>20</td>
</tr>
<tr>
<td>NEAL'S PLACE FARM</td>
<td>YES</td>
<td>THEFT OF PRODUCE, MATERIALS, DAMAGE TO TREES AND FENCES</td>
<td>CHILDREN AND ADOLESCENTS</td>
<td>CONSTANT THROUGHOUT THE YEAR FROM THE HOUSING ESTATE</td>
</tr>
<tr>
<td>MERTON</td>
<td>YES</td>
<td>HORSE - OWNERS RIDING VANDALS</td>
<td>TEENAGERS AND PEOPLE DUMPING RUBBISH</td>
<td>10 - 50 CASES OF SOME TRESPASS</td>
</tr>
<tr>
<td>NACKINGTON</td>
<td>YES, BUT NOT REALLY DUE TO URBAN DEV.</td>
<td>ALL OVER THE FARM PUBLIC AND FOREIGN TOURISTS CAMPING</td>
<td>TEND TO BE UNEDUCATED PEOPLE</td>
<td>10</td>
</tr>
</tbody>
</table>
**BIBLIOGRAPHY**

BATTY, M. (1978) 'Paradoxes of Science in Public Policy: The Baffling Case of Land Use Models'.
*Geographical Papers, University of Reading, No.69.*

BEST, R.H. (1976) 'The Extent and Growth of Urban Land'.
*The Planner, Vol. 62 8-11.*

BEST, R.H. (1977) 'Agricultural Land Loss - Myth or Reality?'
*The Planner, Vol. 63 15-16.*

(London and New York)

(London)

Leicestershire Planning Authority.


*Area* Vol. 13 No.4 307-314

BOWLER, I.R. (1981) 'Self Service down on the Farm'.
*Geography* Vol. 66 147-150.

BROWN, R.C. (1968) 'The Use and Misuse of Distance Variables in Land Use Analysis'.
*The Professional Geographer, Vol. 20 337-341.*
(London and New York)

BULL, C and WIBBERLEY, G.P. (1977) 'Farm based Recreation in South East England'.
*Wye College Studies in Rural Land Use, No. 12.*

CAMBRIDGE COLLEGE of ARTS and TECHNOLOGY (1979) *Sixth Form Occasional Papers.*
(C.C.A.7.)

CANTELL, T. (1977) *Urban Wasteland*  
*Civic Trust.*

(Bristol) 3rd Edition.

CHALKLIN, C.W. (1978) *Seventeenth Century Kent*  
(Chatham)


(Harmondsworth)

CHURCH, R. (1948) *Portrait of Canterbury*  
(London)

COLEMAN, A.M. (1969) 'A Geographical Model for Land Use Analysis'.  
*Geography* Vol. 54 43-55.

COLEMAN, A.M. (1976) 'Is Planning Really Necessary?'  
COLEMAN, A.M. (1977) 'Use and Misuse of National Land Resources'.
Architects Journal 19 94-134.

COLEMAN, A.M. (1980) Land Use Action for the Next Decade
Croydon Geographical Society publication.

Statistics Approach to British Land Use Trends'.
Paper from Kings College London.

COLEMAN, A.M. (1978) 'Agricultural Land Losses: The Evidence from
Maps'.
in Rogers, A.W. (ed.). Urban Growth, Farmland Losses and
Planning.
Wye College for the Institute of British Geographers.

COLEMAN, A.M. et al (1982) Patterns on the Map: No 4 Sevenoaks and
Gravesend.
Geographical Association.

Handbook.
Geographical Association.

(London)

COUNTRYSIDE COMMISSION (1981) C.C.P. 136 'Countryside Management in
the Urban Fringe'.

DAVIDSON, J. (1976) 'The Urban Fringe'.
Countryside Recreation Review Vol. 1 1-5.

DAVIDSON, J. and WIBBERLEY, G.P. (1977) Planning and the Rural
Environment. (Oxford)


DICKINSON, G.C. and SHAW, M.G. (1977) 'What is Land Use?' Area I 38-42.


FROST, M. and SPENCE, N. (1981) 'Urban and Regional Economic Change in Britain'.
Geography Journal.

GARDINER, D. (1923) Canterbury
(The Sheldon Press, London)

GASSON, R.M. (1966) 'The Influence of Urbanisation on Farm Ownership and Practice'.
Wye College Studies in Rural Land Use No. 7.

Dept. of Geography, University of Nottingham.
(Nottingham)


Geographical Magazine.

(London)

Australian Geographer 243-55.

HALL, A. (1976) 'Management in the Urban Fringe'.

Political and Economic Planning.
(London)
HALL, P.G. (1975) *Urban and Regional Planning*. (Harmondsworth)


HOME, G. (1948) *Canterbury of our Grandfathers and of today*. (Canterbury)


(Oxford)

(London)

Geographical Magazine Vol. LIII No. 7.

(Harlow)

LAYTON, R. (1980) 'Hobby Farming'. 
Geography Vol. 165 Pt. 3 220-224.

(Staples Press Ltd. London).

Town and Country Planning, P. 16.

(Wisconsin)

(London and Glasgow)

Wye College University of London.

A.D.A.S.


MULLER, P. The Outer City: The Geographical Consequence of the Urbanisation of Suburbs.


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<td>O.P.C.S</td>
</tr>
</tbody>
</table>
The Minerals Subject Plan
(1982)

The Stour Valley Countryside Plan
(July 1980)

Factsheets on Functional Regions
(1984)

Kent County Council

Kent County Council

Centre for Urban and Regional Development Studies. University of Newcastle.