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Territorial Justice and the Allocation of Suburban Leisure Services: A Case Study of Havant, Hampshire.

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No. 8

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ABSTRACT: The growing literature on public service distribution and allocation is briefly renewed with particular reference to work on leisure services. The applicability of public service studies to suburban jurisdictions is discussed and a methodology and theory for such a study is outlined. The results of an empirical investigation in suburban South East Hampshire are presented. The need for a close analysis of decision making by various political actors is suggested in order to gain a better understanding of service allocation decisions. Allocation is not found to systematically favour any social, political or spatial group, however a series of proposed new facilities are, it is suggested, located with little concern for territorial justice or positive discrimination. It is contended that the local authority under study allocates its leisure resources on the basis of economic rather than social criteria.

Introduction

Drawing on work from a variety of disciplines, geographers have recently become concerned with the analysis of the distribution and allocational consequences of public service 'outputs'. These may be defined as the activities performed and provided by local, regional and national governments for consumption by residents of their particular jurisdictional areas. The broad aim of the work presented here is to investigate the decision-making involved in one such public service concerned with leisure facilities. Consideration will also be given to the place of social justice in the allocation of this service.

The case-study selected here is an analysis of the distribution of three new leisure facilities in Havant Borough, a suburban district of Hampshire. After a brief review of existing work in the general field of public service allocation attention will focus upon the reasons for the study of leisure services and then on a reflection of the particular characteristics of suburban areas. A theory and methodology for the study of resource allocation will be outlined followed by a presentation and explanation of empirical findings. Concluding remarks will concentrate on an evaluation of the methodology and its results.

Public Services Research

Though a comparatively recent development in geography, research into public services has been extensively reviewed. While Pinch (1980) and Burnett (1981) have emphasised geographical aspects of this research, it has been mainly political scientists who have attempted comprehensive reviews (Newton 1976; Rich 1979) of a wide variety of interdisciplinary research. The present review will attempt to distinguish some major trends followed by a consideration of existing research related to leisure services.

Research has been concerned broadly with 'who gets what, how, when and where by way of public proposals, plans and policies' (Burnett 1981), an approach paralleled to that outlined by Smith (1974) for the study of indicators of social well-being. Interest centres not only on the level

of provision in physical terms, but also on the cost of provision and the quality of provision, as well as such factors as whether provision is desired, and reactions to complaints concerning provision. Services which are examined may be classified on the basis of how they are delivered to a population; whether from static points (facilities) in terms of 'place specific' services, or individual delivery in the case of 'outreach' services (Wolch 1979). A second geographical aspect of studies has been a concentration in areal variations in levels of provision. The scale of such work has varied from international and national analyses of variations in GNP (Smith 1975a) to inter- and intra-authority studies of small scale variations in the levels of provision of a myriad of services.

Describing and mapping public service outputs is, in itself, an instructive and interesting task. Its major importance is, however, as a preliminary to the more important work of finding and analysing the causes and consequences of variations in provision.

Traditionally explanation of public service distributions has been sought in the development of measures of statistical association between output levels and a wide range of predominantly ecological variables.

Multivariate techniques have been employed, for example, to estimate the relationship between measures of park provision and social class, race, political power and age of neighbourhood in San Antonio (Lineberry 1977).

Pinch (1979), has provided a fourfold sub-classification of such approaches.

- (i) Elementary descriptions of spending and staffing levels
- (ii) Studies which relate levels of provision to need in terms of territorial justice
- (iii) Explanatory regression models
- (iv) Comprehensive studies embracing all the previous points

Criticism of the approach centres around the level of explanation offered and the drawbacks of the statistical methodology used. Explanation in the terms proposed is purely associational, and in no way causal, further analysis is needed to proceed to this level. Inevitably some, possibly crucial, linkages may be neglected. Considerable debate has occurred over the relative importance of certain explanatory variables. 'Political' variables, in particular, have been both emphasised (Zisk 1972; Pinch 1978) and dismissed (Newton 1976). Statistically problems

have been perceived in the fact that many of the explanatory variables proposed exhibit considerable multicollinearity. The problem can be circumvented but it is not clear how far this may affect the reliability of the model.

It was in an effort to secure a more rigorous explanation that a second approach developed. Drawing from Weberian sociology this approach emphasised the role played by key individuals in decision-making concerned with service allocation and distribution. Though these key decision-makers, commonly known as 'gatekeepers' or managers, have been defined to include elected representatives and low level officials, they are generally identified among higher tier local government officers (Pahl 1979). Interaction between these gatekeepers and the public is important, but a crucial point is the control of information to final decision-makers which is exercised by these officials. Service locations and levels may be seen as resulting from bureaucratic interpretations of officially defined decision-rules and techniques. A final approach employed by researchers in this field has been the use of political economic paradigms. Work has suggested that the most all-embracing approach, in terms of analysis and explanation, is to consider urban problems and state allocational responses by means of marxist analysis. The approach can be further subdivided (Saunders 1979) to distinguish the instrumentalist approach of Cockburn (1977), which sees the housing crisis in Lambeth as the result of the all-pervading power of capital, and the more structuralist approaches of Dear (1980) and (ra; (1976). Both managerialist and political economic approaches have their critics who have drawn attention to the fascination of the former with the minutiae of local government structures (Dunleavy 1980) and the tendency of the latter to be oversimplistic in its emphasis on class struggle and capital. It is, however, obvious that a considerable number of options are open to the researcher in search of a methodology for the examination of public policy. Methodological purity, eclectic selection and amalgamating approaches have all been proposed as strategies for research.

Several areas have been identified where research is inadequate or has been neglected. Rich (1979) has noted that the consequences of variations in provision have not been examined, variations within cities have received little attention, longitudinal studies are few, and there

has been poor justification of areal bases for distribution measurement. Conversely, work in separate U.S. cities by Levy, Mel'smer and Wildavsky (1974), Jones and Kaufman (1974) and Lineberry (1977) appears to indicate a general consensus that although inequality of provision is present, it does not systematically discriminate against any one group of individuals or 'underclass'. Burnett (1981) has suggested that a major problem with research in this field is its difuseness, practised by a wide variety of disciplines, published in a wide variety of journals, its practitioners can often work in ignorance of what others are doing in the field. No systematic statement is possible on what has been studied where and how, though recent work has tended to emphasise the explanatory power of the managerialist approach and has concentrated on an intraauthority unit of study. Operationalization and empirical testing is still necessary for the Marxist approach, while specific variables in the ecological approach merit further investigation.

Certain types of jurisdiction and service have been neglected by previous studies. Despite the trend towards the study of the microvariation of outputs within jurisdictions, there has been little consideration of the more detailed characteristics of the area in question. The majority of studies have concentrated on jurisdictions that form cities in their own right in metropolitan (Pinch 1978) and provincial (Lambert, Webster and Penny 1980; Kirby 1979) localities. rural authorities exist, concentrating notably on the field of public transport planning (Moseley 1979), but little attention has been paid to the servicing problems of the small provincial towns or of the suburban jurisdiction. In the case of suburban jurisdictions the single major work is that by Saunders (1979) on power and its consequences in Croydon. Croydon was also one of the suburban jurisdictions selected by Newton (1980) in a study suggesting that a jurisdiction's position in the urban hierarchy was a key determinant of service provision. Research has also tended to concentrate on the more salient and problematic of public services, notably those fields where public debate is greatest. Concentration has therefore been on social services, housing and education. Arguably attention should also be directed at other services where specified influences may equally occur at equal cost and with equal consequences for the quality of life of local residents (Moon 1979).

Amongst the most neglected services are those concerned with leisure. Until recently much research in this field was characterised by a broadly positivist approach. Several themes can be distinguished. Much early work comprised descriptive catalogues of recreational supply within jurisdictions. This tradition has been continued in, for example, the examination of facility distribution on a ward basis (Wyman, Owens and Young 1977). Club membership and facilities have been studied as a base for predicting future leisure needs (Boothby and Tungatt 1976). Work on demand in leisure (Sillitoe 1967; Mercer 1973) has identified characteristics typical of leisure participants through the use of extensive questionnaire and interview surveys. More sophisticated modelling of leisure demand has been produced (Tapiero 1974) while predicted demand has also been used in the development of standards of provision such as those employed by the National Playing Fields Association (1974).

A second theme of studies of leisure services, developing from work on demand and supply, has been research on optimising service location. Data on existing facility use patterns has been used to locate new facilities optimally (McAllister 1970). Campbell (1971) identified optimal sites in terms of accessibility and possibilities for dual-use, while Robertson (1978) used a distance-minimisation algorithm to identify optimal sites for new facilities in Glasgow. The problems confronting leisure planners form a third theme of research. Behavioural approaches have been used to identify variations between residents and representatives perceptions of adequate provision (Martin 1972), and to identify service areas in terms of socio-economic status (Hodges 1971).

The theme of territorial justice has penetrated research on leisure services. One of the earlier examples of this was in the work of Benson and Lund (1969) relating expenditure on facilities with socio-economic indices of demand. Burton (1971) was an early exponent of the concept of equity in leisure allocation. Recently work has turned towards examinations of socio-spatial bias in allocation policies (Gold 1972, Lineberry 1977, Jones, Greenburg, Kaufman and Drew 1979) but, in common with public service studies in general, there has been a dearth of research on areas other than large cities. Work in suburbia has been concerned only with the social role of leisure (Pahl 1965), open space standards (Mitchel and Levingood 1976) and provision in Third World suburbs (Mahaday and Rao 1975). There is a pressing need for a

consideration of the differential distribution of leisure facilities in suburbia. Problems may also be perceived in the lack of work on Eritish jurisdictions, previous work being dominated by North American research.

Other drawbacks to existing work, which should be considered in the formulation of a methodology for the examination of leisure services, include the need to investigate latent demand for facilities and not only demand based on existing patterns of use. Previous research has also tended to ignore the analysis of decision making as an explanation for inequitable resource distributions. Finally, there is a need to produce studies of 'real-world' relevance, examaning and criticising the application of actual council leisure allocation policies.

Leisure services as a field of study

The selection of indoor leisure services as a case-study can be traced to several factors. Leisure activity has increased rapidly in recent years (Sillitoe 1967). Particular growth has concentrated on indoor leisure activities which form the major focus of attention in this paper. Collins (1974) draws attention to the notable increase in participation rates in squash and badminton, two major indoor sports. The growth of the leisure industry parallels, and to some extent is a result of, changing employment structures, the role of leisure in promoting good health and the place of leisure facilities in the maintenance of good community relations. Local authorities play a crucial role in developing and providing these often costly facilities. More pragmatically, the selection of leisure facilities provided an opportunity to analyse a recent decision to build three multi-purpose activity centres for sporting and community use in the study area.

Post-war trends towards greater mobility, affluence, real income, educational standards and free time, and, more recently, considerable unemployment (Burton 1971) have increased demand for leisure. Taken together with population growth, the increase in demand has been substantial but has not been backed by a corresponding increase in the provision of facilities. Considerable 'underprovision' exists and varies spatially. Attempts to plan further provision have tended to be based on data relating to existing participants in the leisure arena, thus ignoring

the latent need of those who could or should benefit from leisure provision, and perpetuating existing inequalities of provision.

The concept of 'multipurpose use' has had benefits both in terms of maximising use and in promoting community relations. A wide range of activities previously housed in scattered or substandard accommodation may be contained in multipurpose centres operating at full capacity. In 'community' terms centres may also provide places to meet; nodes at which neighbourhoods can meet and interact. The naming of many facilities as 'village' or 'community' centres reflects this concept - which is particularly important in suburban areas which often consist of vast housing estates lacking any focal point.

The costs and financial returns associated with the construction of indoor leisure facilities do not make commercial provision viable. As the facilities are, nevertheless, necessary, local authorities are faced with much of the responsibility for provision. Attempts can be made to alleviate much of the financial loss of provision by making grants for private organisations to provide facilities, and by including profitable activities, such as squash, in any developments. The actual legal responsibilities of authorities as regards leisure provision are set out in various Public Health Acts passed between 1871 and 1961, the Open Space Act 1906, Physical Training and Recreation Acts 1937 and 1958 and the 1972 Local Government Act. The proceeds of Civic Lotteries are one frequent source by which councils may increase the finance available for leisure service provision.

Suburbia as a field of study

The responsibility of local authorities for leisure service provision in suburbia poses particular problems. Though facility provision may be generally characterised as inadequate (Pearson 1977) the problem in suburbia relates particularly to a time-lag. Suburbs, by their nature, have youthful populations with high expectations in terms of leisure facility provision. The construction of provision is, however, a low priority task when compared with other services, so leisure developments generally occur some time after the completion of existing housing developments. It therefore becomes an instructive exercise to examine the

characteristics of the neighbourhoods to which local authorities ultimately decide to allocate resources.

The spatial structure of suburbia is of considerable relevance to the study of public services in general, as well as leisure services in particular. Suburbs, situated on the urban fringe, are created by progressive development of the countryside as people choose to live further from central cities a pattern made possible by increased affluence and improved transport technology (Johnston 1980). development of fringe areas of cities brings small towns and villages into the suburban area. These once separate communities form the basis of different, often spatially separate, neighbourhoods within the suburb with varying or competing service needs. Developing around these initial nodes, and on the edge of the parent city are private and public housing estates. The former, speculatively built for maximum profit, are often totally lacking in any form of social facility as residents are felt to be able to travel or afford private facilities. Public housing estates can be subdivided into estates of the suburban jurisdiction and overspill estates of one-time city residents, decanted from the nearby town. In both cases elements of plarmed leisure provision are likely to exist, but provision often takes place after a substantial time lag. In the case of overspill estates another problem for service provision is the fact that such areas pay rent to the jurisdiction from which overspill occurs. As a consequence, though the suburban authority is, as rate-receiver, responsible for service provision, there is no access to the overspill estate housing stock. A considerable debate therefore naturally exists over the service status of overspill estates in suburbia.

Socially British suburbs are far from the high status areas of American mythology (Donaldson 1969). Though private estates are generally inhabited by white-collar residents, a class continuum can be discovered moving through the middle class areas of early suburban developments and old villages to the lower status local authority estates. This social structure is paralleled by the political structure. Though broadly Conservative areas, suburbs also contain Labour enclaves on local authority estates and some non-partisan representation.

Suburbs, therefore, are areas of high demand for leisure services,

yet they are also areas with considerable potential for conflict over the distribution of resources. The local authority is responsible for developing an adequate level of resources from a rural legacy of low provision; rivalry for service allocation between different social and political groups must also be satisfied as must conflict between the spatial sub-areas of jurisdictions.

The study area, Havant Borough in South East Hampshire, is a typical example of a suburban jurisdiction experiencing many of the problems outlined above. The area, which has experienced one of the fastest population growths in the UK, comprises four district subareas, separated by open country, namely the island resort of Hayling, the one-time small towns of Havant and Emsworth and the ribbon development of Waterlooville along the A3 London-Portsmouth road (Fig. 1). Havant Borough owns considerable local authority housing stock, but a major feature of the Borough is three large overspill estates owned by Portsmouth City Council. Private housing estates are also well represented in the Waterlooville area. The highest status areas of the Borough are in Havant, Emsworth and West Hayling, while the Portsmouth City Council Leigh Park estate is lowest (Fig. 2). The political complexion of the area mirrors this distribution with Leigh Park returning Labour party representatives (Fig. 3).

Indoor leisure provision in Havant Borough is iradequate (H.B.C. 1975). Existing provision is overwhelmingly by private agencies - the church and community associations - with, until recently, little involvement by the local authority. In the analysis of the locations selected for activity centres it will be necessary to consider the distribution of existing facilities which contain activities which could be accommodated in the centres.

Local pressure over poor provision (News, June 1978) and a Sports Council recommendation for more facilities led to an examination of financial resources to determine the finance available for facility construction. It was found that £350,000 was available in the revenue budget of the Recreation and Amenities Committee. This was earmarked for "... the erection of three multi-purpose activity centres of flexible design." Sites were chosen in Hayling, Stakes and Cowplain by the Borough councillors after a year long decision making process.

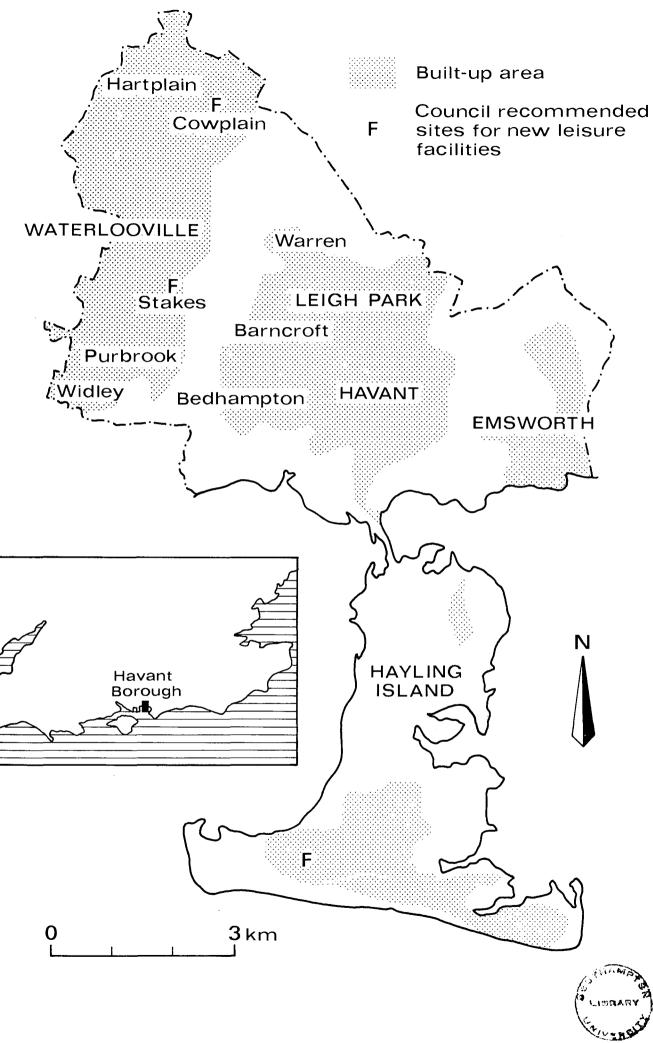


Fig. 1 Havant Borough

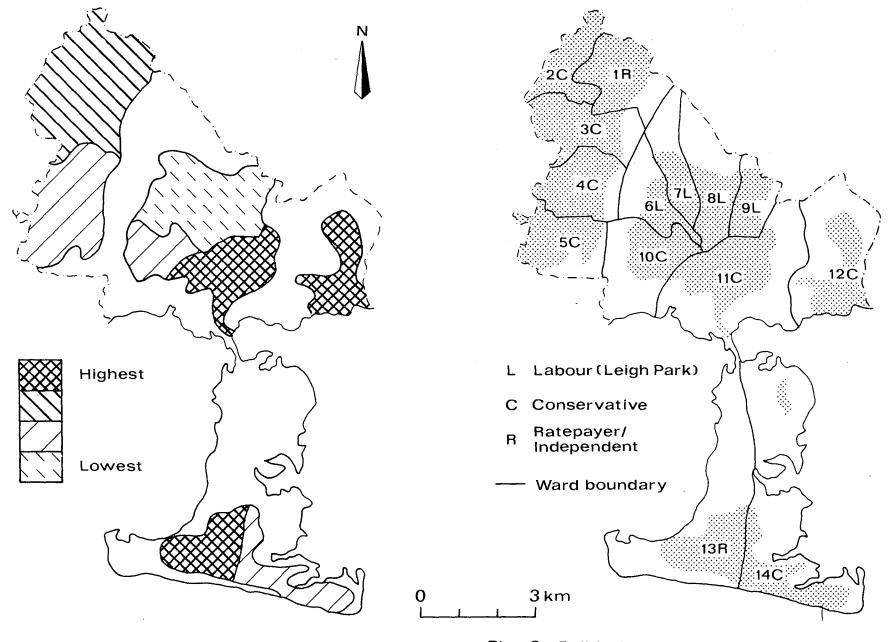


Fig. 2 Social Status in Havant Borough

Fig. 3 Political representation in Havant Borough (numbers refer to Fig. 6)

Despite rumours of the proposals being cut, development has now commenced on two of the sites and the scheme seems likely to be successfully completed. An empirical evaluation of this scheme forms the remainder of the paper.

Theoretical and methodological considerations

The approach to be adopted here is an analysis of who has benefitted from existing distributions, who will benefit from the new facilities, and an evaluation of the role of the local authority in allocation. This evaluation will be theoretically grounded in the concept of territorial justice in allocation, that is allocation according to need, and in the view that the controlling role in allocation is played by key officials in the council bureaucracy and elected representative of the various political wards of Havant Borough. Allocational priorities, to be compared with the proposed allocation, will be outlined, conforming not only to territorial justice, but also to the need for positive discrimination redistributing leisure services to those social, political and spatial groups which have previously failed to benefit from allocation.

This mormative approach to the analysis of leisure services implies the need to subdivide the area subject to analysis. Subdivision on the basis of wards is crucial in a consideration of the role played by elected representatives in formulating service policy, and provides a convenient unit for the collection of census data. In Havant it is fortunate that wards, or groups of wards, correspond closely to the boundaries of the sub-areas of the suburb. Nevertheless some use must be made of sub-areas as units of analysis in their own right. This will enable conclusions to be made concerning the spatial rivalry of sub-areas over facility provision - a rivalry which, in Havant, takes the form of a notion that core areas of the Borough receive more services than peripheral neighbourhoods.

An investigation of who benefitted from the original supply of leisure facilities necessitates the quantification of leisure facility supply. Simple locational analysis is inadequate as it fails to allow for individual variation among a wide range of facilities. An index of supply must be defined incorporating parameters reflecting variations in

facility size, quality, accessibility and centrality. Facility size is easily calculated by measuring the area of facilities on large scale Ordnance Survey plans enabling distinction to be drawn between the vast range of facility sizes. Facility quality reflects both the length of time which the opportunity is available to the general public and the repair of the facility. Opening hours may be easily assessed by field visits to facilities while repair is best quantified in relation to a surrogate measure, such as age of a facility. Accessibility in this case can be related to the utility of a facility to two different groups of users. The bus-home user may be catered for by calculating the distance, by the shortest route, from the nearest bus stop. Similarly those arriving at a facility by car can be considered by counting the number of car parking spaces provided. The final concept, that of centrality, is a measure which relates a ward population distribution to the distribution of facilities (Massam, 1975). Central points weighted for population may be calculated for each area, and the deviations of facilities calculated. Road distance is an acceptable measure of deviation here, since the incorporation of a time dimension would be dubious owing to wide variations in travel times and modes of transport.

These raw parameters can each be investigated for areal variation, and also amalgamated to create a composite overall index of supply indicating the distribution of benefits from the existing facility supply. The technique to be used here is that recommended by Smith (1975b) involving a summation of the parameters expressed as standard score transformations. In the case of accessibility, a Havant Borough Council report (H.B.C. 1975) has indicated that car transport is twice as important as bus transport as a means of access to facilities, so a weight of two is adopted in this specific case.

The resultant index of supply may be analysed by correlation to determine the significance of any relationship between existing leisure facility supply and the potential 'underclasses' of lower socioeconomic and rented tenure groups. Additionally consideration must be given to the degree of discrimination against the various subdistricts of the Borough. A fourth factor, to be examined descriptively, must be the role played by the historic development of the Borough in determining the level of facility provision. It is not foreseen that

decision-making analysis will provide any important explanatory power at this stage, as many of the facilities under consideration were erected before the creation of the present decision making structure. It is however intended that analysis should facilitate the identification of whether disadvantaged areas were those of lower socio-economic status, local authority housing or peripheral regions of the Borough.

An analysis of facility supply is but one element of leisure service need which must be considered in a study of territorial justice in allocation. Attention must also turn to demand for leisure services; low supply may result either from discrimination, or simply from lack of demand. Conversely high need for new facilities can be identified where demand is high and supply is low. Three measures of demand can be identified. Voiced demands, abstracted from local newspapers, are constrained in their usefulness by the ability of different societal groups to articulate their wishes, so are not accurate indicators of need (Verba and Nie, 1972) though they may indicate local dissatisfaction with provisio: . The general relationship between leisure demand and certain socio-economic factors, notably high status and existing participation, is a more satisfactory basis for the analysis of demand. Demand assessed in this way, from census data and information on leisure clubs, is biased in favour of the existing user. This approach therefore indicates only a subset of total demand, itself represented by all members of groups at whom multipurpose centres are aimed. An indexing system similar to that outlined above but based on high socio-economic status and club distribution will therefore only reflect existing user demand. A second index, representing potential demand through such parameters as sub-areal totals of pensioners, single parent families and, to reflect the most likely facility users, the under forties, may also be constructed. Subtracting the first index from the second will give a broad indication of the additional potential which a facility could hope to attract in each area. Conversely by summing the two indices a solution will be generated which is weighted towards existing user demand. Theoretically this solution could be regarded as an efficiency-maximising situation, whereas the former process would indicate impact-maximisation.

Need, combining supply and demand, is best found graphically (fig. 4). Point A is the hypothetical point of greatest need. Curves X and Y

measure deviations from this point, such that wards M, N and O are seen to have greatest need. Area L is overprovided with facilities whereas curve S = D indicates a balance of supply and demand.

Areas identified as having high need may be compared with those selected by the council for development. Reasons for differences might initially be sought in terms of allocation to areas of certain socio-economic or tenure characteristics, however, as indicated earlier, prime attention will be directed at the explanatory power of an analysis of the decision-making structure (fig. 5).

This will be pursued through an investigation of the roles played by three groups of political actors in the decision-making process. The examination of the councillors role will consider the part played by key councillors in securing resources, the influence of councillors' perceptions of need and the place of party politics in the determination of allocation. In the latter case Johnston (1979) has instanced work which suggests that party control, swing and marginality may be important influences on allocation, with majority parties on councils using allocation as an electoral weapon. Such theories have been little tested in the UK and, in addition, differential allocation between constituent sub-areas of suburbs has hitherto been ignored. A consideration of the council officers' part in allocation involves an assessment of the decision rules, techniques and constraints employed to select sites for final deliberation by councillors. Finally the influence, if any, of pressure groups must be considered.

The methodology outlined above permits an evaluation of the previous distribution of leisure facilities and the territorial justice of new proposals. Theoretically allocation should be to areas of high need, that is areas of poor supply and high demand for leisure facilities. Secondly the local authority should attempt to redistribute leisure resources to areas which have previously failed to benefit from allocation. It is expected that reality will deviate from this ideal; consequently it is hypothesised that the existing distribution of facilities will discriminate against underclass areas, and that the locations of proposed new facilities will be socially sub-optimal as a result of activity associated with the decision-making structure.

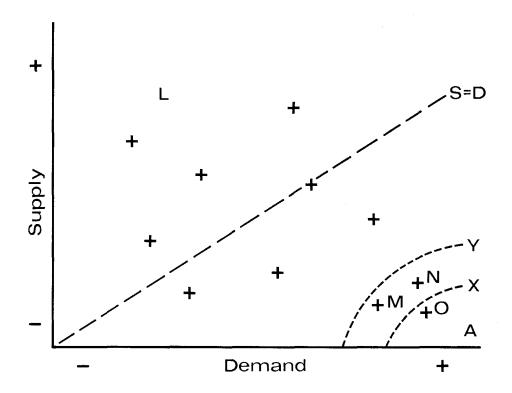


Fig. 4 Determining Need (see text)

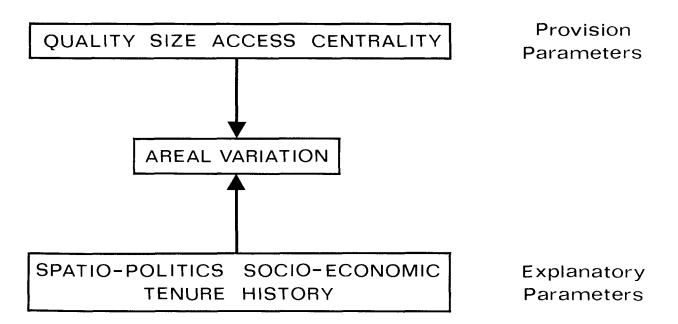


Fig. 5 Analysis of present leisure resources

Empirical testing - leisure facilities in Havant Borough

1. Present resources

Data to facilitate the operationalization of the above methodology was collected in a program of field visits to all indoor leisure facilities in Havant Borough in May 1979, shortly after the locations for the new developments were decided. A list of facilities produced by the Borough council formed the basis of the field work. Standard scores for the parameters suggested in the previous section were calculated and areal variations in provision examined following the process shown in Fig.

The spatial pattern of each parameter, as well as the composite index, was compared with the potential explanatory factors of road distance from respective ward population centroid to the Borough Civic Centre (the 'spatio-political hypothesis', designed to reflect possible discrimination against outlying areas of the Borough) and the more traditional underclass indicators of percentage in socio-economic class one and percentage in owner occupied housing. The pattern of provision was also related, in a more descriptive fashion, to the developmental history of the area.

The spatial variation in facility quality indicated that best facilities were to be found in the tourist area of East Hayling and in peripheral Hartplain. Above average provision was also evident in West Hayling, in central Leigh Park where some planned provision has occurred, and in Purbrook and Bedhampton. On a sub-areal basis the best provision was on Hayling Island. A significant correlation at the 90% level indicated that qualitative virition favoured peripheral areas of the Borough, in direct contrast to the hypothesis that best provision would be in central areas. No relationship was found between socio-economic status of an area and facility quality, nor could any statistically valid conclusions be made concerning a possible relationship to housing tenure. The clustering of older, poorer quality facilities in the older parts of the Borough suggests that the historical development explanatory hypothesis is the most conclusive in this case.

The pattern of facility size distribution indicated that the largest facilities were concentrated in Havant itself, reflecting hierarchical provision of facilities and the influence of historical factors. Havant, as the Borough centre, is the headquarters of several

leisure organisations, as well as containing facilities provided before the development of many other parts of the Borough. After Havant in the provision hierarchy come the subdistrict centres of Waterlooville, Hayling, Emsworth and central Leigh Park. The latter case is, perhaps, anomolous as facilities cluster along a single road in Leigh Park which represents the boundary of two wards which thus appear to have relatively good provision. Newspaper claims of insufficient leisure provision on the estate (News, November 1978) are, however, justified, as the periphery is poorly provided for. shape of the units of analysis contributes to this anomaly. Correlative investigations of the spatio-political and tenure hypotheses in this case both fail to reach significance, but a relationship with socio-economic status is indicated at the 95% level. Higher status areas were found to contain more and larger facilities. Reasons for this may be traced to local inhabitants' higher incomes influencing the size of local private facilities. There is, however, indication of anomalies associated with recent planned developments in low status Leigh Park, and the total lack of facilities in private housing estates, where inhabitants would appear to have to travel to leisure facilities (White, 1973). Again the historical hypothesis is an effective explanatory factor, and if the overwhelmingly high provision in Havant is disregarded, peripheral areas are revealed as relatively well served; thus local opinion that Havant benefits excessively from facility distribution is justified, but it can be suggested that the periphery is not excessively disadvantaged.

The unpatterned inequality of distribution in public services so characteristic of North American research is revealed in a consideration of the transport accessibility of Havant's leisure facilities. None of the hypothesised explanatory factors is significant at the 90% level and no distinct spatial pattern can be observed. The historical development hypothesis is, in this case, similarly invalid; within Leigh Park post-war planning controls would have been expected to minimise the transport accessibility problem, however the area contained both the 'best' and the 'worst' wards.

Variations in the centrality of facility distribution, assessed by deviations from a calculated optimum location in each ward, indicated that greatest variation occurred in Hayling and Stakes, and least in Havant, Emsworth and Leigh Park. Obviously the shape of wards was a considerable distorting factor in this case, but there was some indication that, while socio-economic status, tenure and the spatio-political dimension were poor explanatory factors, some influence could be ascribed to historical development. Wards with old or planned centres had more compact facility distributions than wards such as East Hayling, with three centres, and Stakes with no centre.

Explanation of the individual parameters is therefore problematic. Correlation with socio-economic, tenure and spatio-political variables indicates the inapplicability, in this case, of Lineberry's 'underclass' hypothesis (Lineberry, 1977). Inequality of provision is, however, demonstrably present, and is best explained as a function of the developmental history of the Borough. Amalgamating the individual parameters to produce a composite index of supply (Fig. 6) again reveals unpatterned inequality. Highest supply is in central Havant, followed by Emsworth, West Hayling, the north and south extremities of the Waterlooville area and central Leigh Park. Worst provision is in Bondfields and Stakes wards, both being over one standard deviation less than the mean provision (Moon, 1980). It is difficult to identify observable relationships and infer causality from this pattern. High provision in central Havant may be justified by the pre-eminent position of the area as the centre of the Borough and dominant settlement of the four sub-areas comprising the suburb. The spatio-political hypothesis is dubious as poor provision has been found to occur in central as well as peripheral wards. Little credance can be attached to the importance of tenure and socio-economic status as explanatory factors as there is no systematic relationship. Good provision in older parts of the Borough and poor provision in post-war private estates and more recent local authority developments point to the importance of developmental history as an explanatory factor, and also to the problem of time-lag in the provision of leisure facilities on new council housing estates.

2. Need for new facilities

The proposed methodology requires the initial construction of indices of demand before proceeding to the consideration of need per se. The index of existing user demand was produced using just two representative parameters - percentage ward population in socio-economic groups one and

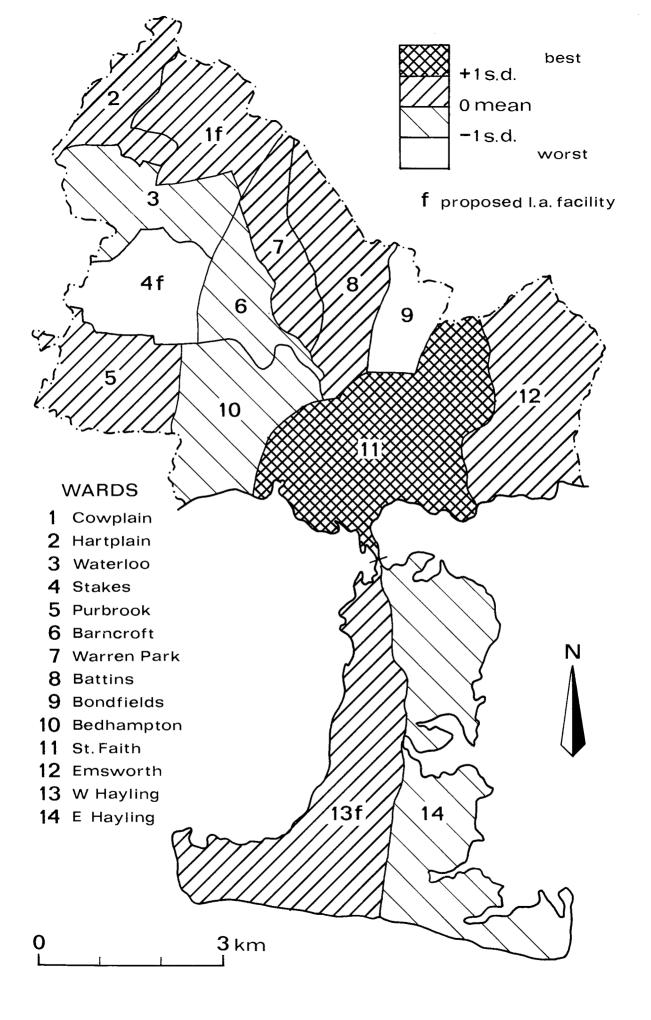


Fig. 6 Supply Index

two, and percentage registered facility using organisations per ward. Though this might appear to be a small number of parameters, it can be justified by reference to research (Mercer 1973) which has indicated that multivariate studies of leisure demand exhibit high multicollinearity. High socio-economic status and the receipt of higher education, for example, are both indicators of high demand, however they are also virtual substitutes in statistical terms. Lowest existing user demand was found in Leigh Park reflecting not only low socio-economic status, but also the existence of relatively few organisations. Residents of the area appear to be less likely to participate in organised leisure activity, either from inclination, or as will later be argued, from lack of opportunity. Highest demand occurs in central Havant, a fact probably again accounted for by the centrality of that area. Potential demand, indicating where demand for facilities might occur if all potential users of leisure facilities are considered contrasts strongly with the existing user based index. A strong potential demand exists in Stakes and parts of Leigh Park on an index reflecting ward totals of retired people, single parent families, under 40s and weighted by the total ward population. High existing user demand yet low potential demand in West Hayling and Purbrook indicates that overall demand in these areas may well be relatively well satisfied. Voiced demands, the final category, were abstracted from local and community newspapers for the period 1975-1980 and give an idea of the spatial variation in intensity of feeling over leisure provision. Assuming these views to be representative of a larger body of local opinion (Burnett 1978), it appears that Leigh Park, and, to a lesser extent. Waterlooville and Emsworth residents make most demands for new Such voiced demands may be instrumental in gaining council facilities. help to remedy facility deprivation.

A composite demand index indicating efficiency-maximising locations for new facilities by summing potential and existing user indices indicates highest demand in Cowplain, Hartplain, Stakes and Bedhampton. Leigh Park retains relatively low demand. Impact-maximisation under the criteria outlined in the metholodogy suggests that a new facility would attract most new users in Leigh Park or Stakes. This measure is more socially just, discriminating positively in favour of those who could take part in leisure activity.

The efficiency and impact maximising approaches provide the two most accurate assessments of demand, and, as a consequence, can be used in the calculation of need necessary in the formulation of territorially just priorities for future allocation. Hypothesising that need can be considered as high demand and low supply, two graphs can be produced (Fig. 7) showing supply against efficiency and impact oriented demand measures respectively. The graphs are constructed with rank values of supply and demand to reflect the fact that decision-making by councillors is frequently based on a simple comparison of which areas are better, which worse than a particular ward (Gyford, 1976). Interviews in the study area have suggested that the basis for demanding a facility has often simply been that another area already has one. By examining deviations from the hypothetical point of least supply, highest demand, the wards with most need for facilities can be simply found. An overview of these priorities would suggest that development of leisure facilities is most needed in five broad areas: Stakes, north-west Waterlooville, Fordfields, Bedhampton/Barncroft and East Hayling. Of these areas, highest priority would favour Stakes, Bondfields (eastern Leigh Park) and Bedhampton/Barncroft (western Leigh Park). Suitable sites, as recommended in the Borough design brief for the construction of the activity centres, exist in each of these areas.

These priorities would improve supply and satisfy demand for indoor leisure in Havant Borough. At the same time the proposals represent a major redistribution of leisure facilities to working class local authority estates which have previously provided restricted opportunity.

3. Evaluation of proposed distribution of new facilities

The local authority recommended sites were, with one exception, different to the needs based proposals outlined above. Only the Stakes area allocation appears justified on the basis of need.

In terms of the spatio-political hypothesis, the actual allocation to Cowplain, West Hayling and Stakes was satisfactory. No allocational bias to the centre of the Borough was evidenced and two peripheral areas benefitted. In socio-economic and tenure terms, however, allocation was not particularly redistributive. Both Cowplain and West Hayling are areas of owner occupied housing of medium to high status with Cowplain

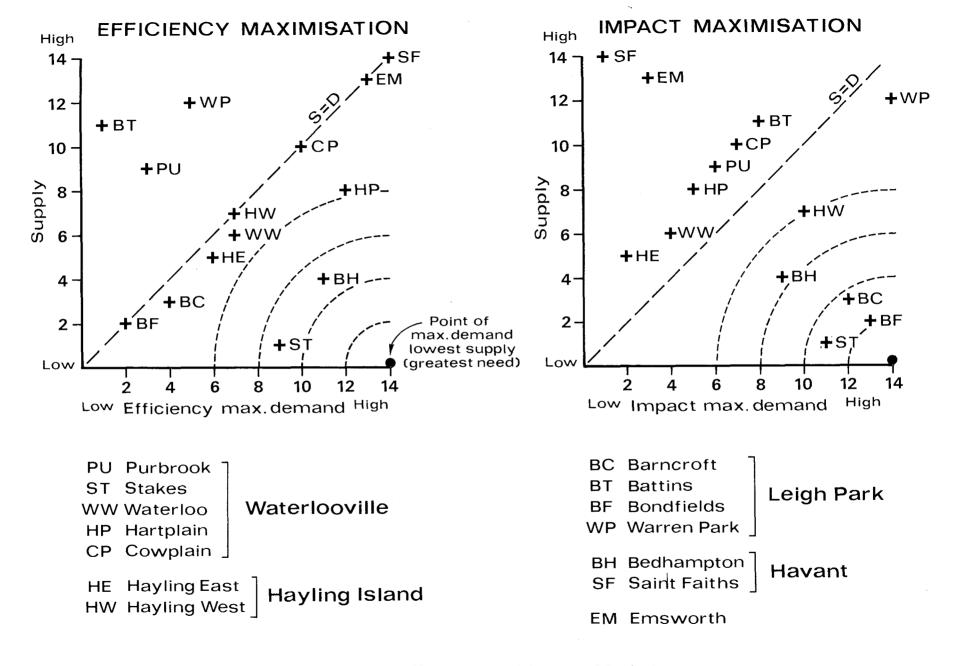


Fig. 7 Determining Need (Efficiency and Impact Maximisation)

comprising large private housing estates and West Hayling a substantial elderly and tourist population. Only in Stakes was leisure opportunity redistributed to benefit an area of local authority housing. Questions can therefore be posed concerning the proposed allocation. Particular points of investigation might involve examining the reasons why the Waterlooville area received two facilities, why Emsworth received none, why the needs of Leigh Park were ignored and why the Hayling centre was located away from the more heavily populated, more needy and more tourist oriented area of East Hayling. An analysis of the decision-making is the best way to illustrate such points.

The initial identification of areas for development was undertaken by the officers of the council. Their decision-making process effectively ruled out the possibility of leisure facility construction in large areas of the Borough. Interviews and examination of council minutes reveal that quantitatively rigorous allocation techniques were not employed. basic method appears to have involved identifying areas of poor service, defined as areas lying outside an arbitrarily defined half mile radius service zone drawn round facilities deemed to be of comparable size to those proposed. Areas of poor service were identified in west Waterlooville, Widley, north Emsworth and west Bedhampton as well as those areas to which facilities were ultimately allocated. The effectiveness of the technique was limited however as it was based purely on the supply of facilities and, through time constraints, ignored demand and need. A further constraint on site selection was the need to find sites of at least one acre in order to permit construction of the proposed size of facility, also, as finance was limited, proposed sites had to be in Borough ownership to limit the costs of site assembly. Effectively this restricted available sites to suitably sized parks within the search area; thus a limited choice of sites faced the councillors when they came to make the final decision.

As a basis to their decision-making the Borough councillors were required to assess the need for leisure facilities in their wards, thus an, albeit subjective, needs element was contained in the decision-making model. Attention here, however, will be on the influence on site selection of the factors suggested in the methodology - the role of key councillors, councillor perceptions, the spatio-political dimension and party politics. Key councillors, defined as Committee Chairmen, the

leader of the Council and the Mayor, are not thought to have exerted pressure to secure facilities for their wards. Strong representations for facilities were made from Cowplain and Stakes, but there is no evidence to suggest that allocation was a result of the influential positions of the respective councillors. Key councillors, in general, tended to adopt 'statesman' roles (Gyford 1976) and refrained from pressing the interests of their particular wards. Councillors' individual, personal perceptions of need for leisure facilities may, however, influence their voting on allocational decisions. Participant observation at council meetings and interviews with councillors revealed that certain members held views of need distribution which bore little resemblance to the analysis presented here. Two particular perceptions which may have been influential in the decision-making process related to statements that Emsworth, by virtue of its coastal position, does not need facilities, and that Leigh Park has already benefitted extensively from Borough allocation policy. The latter statement is undoubtedly connected with the peculiar politico-geographic position of Leigh Park as a Portsmouth City Council owned overspill estate. The spatiopolitical dimension, concerned in itself with councillors' perceptions of resource allocation, was, as has been stated, satisfactorily countered by the proposed allocation. The allocation of two facilities to the Waterlooville area can, however, be taken to reflect the fact that most complaints over lack of provision came from this area.

The influence of party politics on allocation is more contentious and, in the British context, less likely, given the known relationship of local election results to national politics rather than local issues (Taylor and Johnston, 1979). Some relationship can, nevertheless, be seen between leisure service allocation and local party politics in Havant. The vote buying hypothesis (Johnston 1979) would suggest that the ruling (Conservative) party might allocate facilities to marginal wards in an attempt to buy the loyalty of voters. All the wards which received an allocation can be considered under this heading. Stakes is highly marginal, experiencing a 13% swing away from the Conservatives since 1975. The Conservative winning margin was only 10.5% in 1979, a margin which could easily be overcome in a local election. The development of a large new local authority housing estate in the area in 1980-1985 will increase the proportion of likely Labour voters at a time when the Conservative popularity should be waning. The allocation of

a large and important item of local authority expenditure to the ward might therefore be considered as a politically expedient decision. Cowplain the party political motive, again related to marginality, becomes more complex. A potentially large Ratepayer vote in the ward was finally realised in the return of a cardidate in 1979, the only reverse suffered in the Borough by the Conservatives that year. Both the wirner and the losing Conservative had supported the need for a facility, but the winner was aligned with a strong popular pressure group which argued successfully for the resiting of the facility. As a vote buying tactic allocation would therefore appear to have failed in this case, however the ward remains marginal. The selection of a site in West Hayling, as opposed to a more justifiable site in East Hayling, can also be considered in terms of vote buying. A declining Ratepayer/Independent presence exists in West Hayling, where the Conservatives gained a swing of 22% in 1979, but East Hayling is a safe Conservative ward where allocation would serve no useful party political purpose. Similarly no vote buying possibilities exist in Leigh Park where sites can be recommended on the basis of need. Labour control is total in this area, with the only significant opposition being provided by the Liberal party; the Conservatives would stand no likelihood of electoral gain through facility allocation. perhaps far-fetched in this context, and unlikely to be verified, the vote buying approach can, therefore, be applied and, probably merely through coincidence, upheld.

Pressure groups, as a final group of political actors in the decision-making process, also play a small part in the determination of the location of new leisure facilities. At the Hayling site a small well organised group was successful in obtaining design alterations to the facility to maintain a quiet environment and the peace of an old peoples home. Protestations against the need to demolish a groundsmans' house to permit the construction of the facility were, however, over-ruled. More serious problems occurred at the Cowplain site where an 'action group' with mainly middle class membership was formed. This was ultimately successful in getting the facility site moved from a situation adjacent to an Infants School and high status housing to another part of Cowplain Recreation Ground next to some local authority housing. Thus the owner occupiers were rid of any noise problem.

The analysis of the complex web of influences and activities comprising the decision-making process provides one way by which an understanding can be gained of the distribution of leisure facilities within the study area. It is argued that the ecological and underclass correlations characterising work such as Lineberry's (Lineberry, 1977) are but one step in the task of explaining the differential distribution of public services. As Lineberry himself concluded:

"... the decisional premises of the public bureaucracies offer a kind of missing link in the analysis of the allocative processes and outcomes of urban government."

(Lineberry 1977 p.146)

Conclusions

The model tested here can be summarised as in Fig. 8. Naturally the proposed methodology is not problem-free. The empirical indices can, for example, be criticised on four counts. A wide variety of facility sizes were considered when formulating the supply index as it was necessary to consider all facilities housing activities which could be accommodated in multipurpose leisure centres. Problems arose in compressing this variation to form a single supply index; this was countered by using the facility size parameter. Multicollinearity of demand indicators was countered by the use of a seemingly small yet suitably representative data base. The use of vards, political divisions of which few people know the boundaries, was necessitated through the intention to examine party political influences; a consideration of subareal cleavages and the often close correspondence of ward boundaries with perceived communities in Havant however aided analysis. problem of facilities on, or near, ward boundaries (Webster and Stewart 1975) was small in Havant and was solved by the usual process of splitting facility scores between the wards concerned.

Particular conclusions which can be drawn include the suggestion that political influence is present in leisure service allocation. The need based resource priorities defined for the purposes of this analysis are also simple, easily calculated guides to territorial justice in allocation and illustrations of equitable priorities for future developments. The differentiation of impact and efficiency maximising

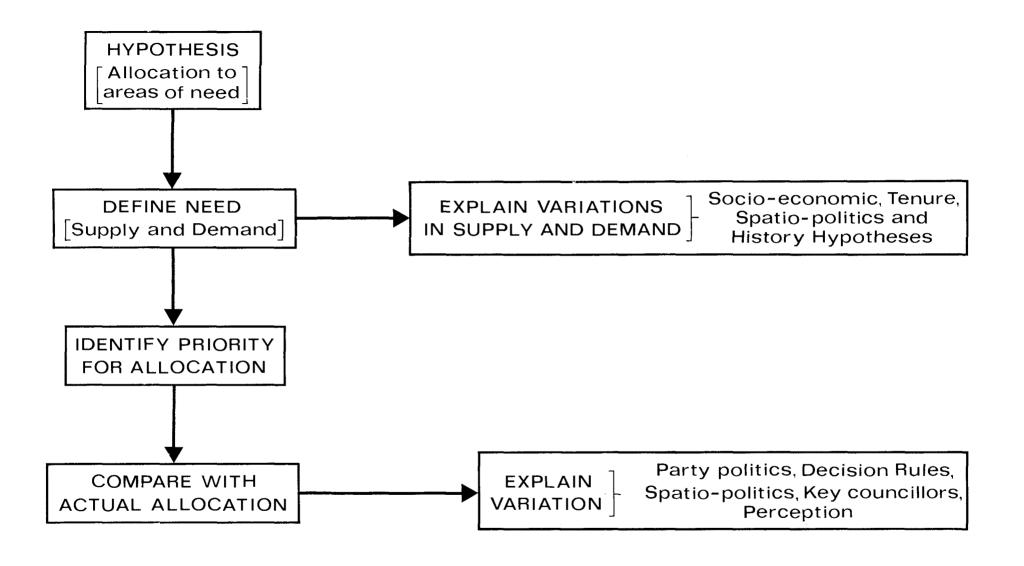


Fig. 8 Model for examining suburban leisure service allocation

solutions is interesting as the real-world proposals can be seen to correspond relatively well with the efficiency based priority scheme. Actual proposed sites were in or adjacent to areas recommended suggesting that the decision process provided sites conforming to the usual allocation policy of economic feasibility rather than the socially suitable locations preferred in this research.

Territorial justice in allocation was satisfied to some extent, however positive discrimination cannot be said to have occurred except in the case of Stakes ward. Redistribution of leisure opportunity could have been greater, benefitting lower socio-economic groups in areas dominated by local authority housing. It does appear though that the Borough council are aware of the problems of service provision in a socially, spatially and politically fragmented suburban area. Further research might be directed at quantifying political influence, examining the question of whether local authorities should be concerned with territorial justice and positive discrimination, or perhaps most fruitfully, testing the model in other suburban jurisdictions.

References

- Benson, C S and Lund, P B (1969): Neighbourhood Distribution of Local Public Services Univ. of California, Berkeley
- Boothby, J and Tungatt, M E (1976): Urban Recreational Facilities and Organisations Univ. of Durham, North East Area Study, Working Paper 38
- Burnett, A D (1978): Political demands and public services: geographical aspects of petitioning and protesting over Portsmouth's public services. Portsmouth Polytechnic Department of Geography (unpublished)
- Burnett, A D (1981): The distribution of local political outputs and outcomes in British and North American cities: a review and research agenda, in Political Studies from Spatial Perspectives eds. Burnett A D and Taylor P J, Wiley, Chichester
- Burton, T L (1971): Experiments in Recreation Research Allen and Unwin, London
- Campbell, K (1971): The provision of indoor sports facilities in urban areas. MSc Thesis Dept. of Planning, Univ. of Edinburgh (unpublished)
- Cockburn, C (1977): The Local State, Pluto, London
- Collins, M F (1974): Urban sport and countryside leisure Area 6(4) 271
- Dear, M J (1980): A theory of the local state. Paper presented at IBG conference Lancaster 1980
- Donaldson, S (1969): The Suburban Myth Columbia Univ., New York
- Dunle vy, P (1980): <u>Urban Political Analysis</u>, Macmillan, London
- Gold, S D (1972): Distribution of recreational services in Detroit 1968-69. PhD Thesis Univ. of Washington (unpublished)
- Gray, F (1976): The selection and allocation of council housing,

 Transactions of the Institute of British Geographers New

 Series 1, 34-46
- Gyford, J (1976): Local Politics in Britain. Croom Helm, Lordon
- Havant Borough Council (1975): Recreation and Leisure, HBC, Havant
- Hodges, L (1971): An analysis of patterns to visitation to recreation centres in the City of Dallas, Texas. PhD Thesis Texas A & M University (unpublished)
- Johnston, R J (1979): Political, Electoral and Spatial Systems, OUP, London
- Johnston, R J (1980): City and Society Penguin, Harmondsworth

- Jones, B D and Kaufman, C (1974): The distribution of urban public services: a preliminary model. Administration and Society 6, 337-360
- Jones, B D, Greenberg, J R, Kaufman, C and Drew, J (1979): Service delivery rules and the distribution of local services: three Detroit bureaucracies. Journal of Politics 40(2), 332-368
- Kirby, A M (1979): Education, Health and Housing: An Empirical Investigation of Resource Accessibility. Saxon House, Farnborough
- Lambert, C, Penny, J and Webster, B (1980): The impact of services on the inner city: the case of housing improvement. Institute of Local Government Studies, Univ. of Birmingham
- Levy, F S, Melsner, A J and Wildavsky, A (1974): Urban Outcomes:

 Schools, Streets and Libraries, Univ. of California,
 Oakland
- Lineberry, R L (1977): Equality and Public Policy, Sage, Beverley Hills
- McAllister, D (1970): Evaluating the size and spacing of urban public service centres: the case of local recreation. PhD Thesis U.C.L.A. (unpublished)
- Mahadev, P D and Rao, K R (1975): A model for the location of service facilities in a non-western environment. Existics 40(240) 328-333
- Martin, W (1972): Recreation resource distribution and programming needs of the inner city. PhD Thesis Michigan State Univ. (unpublished)
- Massam, B H (1975): Location and Space in Social Administration. Arnold,
 London
- Mercer, D (1973): The concept of recreation need. <u>Journal of Leisure</u>
 Research 5, 41-59
- Mitchell, L G and Lovigood, P E (1970): Public urban recreation. <u>Journal</u> of Leisure Research 8, 6-21
- Moon, G (1979): Urban facility and service allocation and distribution.

 Research seminar paper, Portsmouth Polytechnic Department of Geography
- Moon, G (1980): Need and Equality in suburban service provision: indoor recreation and the role of the local authority. Paper presented at SSRC conference on Current Research in Social Geography Oxford University (unpublished)
- Moseley, M J (1979): Accessibility: The Rural Challenge Methuen, London
- National Playing Fields Association (1974): Social Recreation Centres, NPFA, London
- The News, Portsmouth, various issues

- Newton, K (1976): Community performance in Britain, Current Sociology 26,
- Newton, K (1980): Cities and their services. Paper presented at SSRC seminar in Urban Politics, Univ. of Exeter (unpublished)
- Pahl, R E (1965): Class and community in English commuter villages.

 Sociologica Ruralis 5, 5-24
- Pahl, R E (1979): Socio-political factors in resource allocation, in Social Problems in the City, eds. Herbert, D T and Smith, D M OUP, London
- Pearson, L F (1977): Leisure facilities: use and underuse. Town and Country Planning 45(1), 36-38
- Pinch, S P (1978): Patterns of local authority housing allocation in Greater Lordon between 1966-1973: an interborough analysis,

 Transactions of the Institute of British Geographers 3(1)
- Pinch, S P (1979): Territorial justice in the city: a case study of social services for the elderly in Greater London, in Social Problems in the City eds. Herbert D T and Smith D M, OUP, London
- Pinch, S P (1980): Spatial aspects of local service provision. Paper presented to SSRC seminar in Urban Politics, University of Exeter (unpublished)
- Rich, R C (1979): Neglected issues in the study of urban service distributions: a research agenda. Urban Studies 16, 143-156
- Robertson, I M L (1978): Planning the location of recreation centres in an urban area a casestudy of Glasgow. Regional Studies 12, 419-427
- Saunders, P (1979): <u>Urban Politics: a Sociological Approach</u>, Hutchinson, London
- Sillitoe, K (1969): Planning for leisure, HMSO, London
- Smith, D M (1974): Who gets what, where and how, Geography 59(4) 289-297
- Smith, D M (1975a): Human Geography: a Welfare Approach, Arnold, London
- Smith, D M (1975b): Patterns in Human Geography, Penguin, Harmondsworth
- Tapiero, C S (1974): The demand and utilization of recreation facilities a probability model. Regional and Urban Economics 4(2) 173-186
- Taylor, P J and Johnston, R J (1979): The Geography of Elections, Penguin, Harmondsworth
- Verta, S and Nie, N H (1972): Participation in America: political democracy and social equality, Harper and Row, New York
- Webster, B and Stewart, J D (1974): The area analysis of resources, Policy and Politics 3(1) 5-17

- White, D (1973): The ability intensive suburb, New Society 23, 522-525
- Wolch, J R (1979): Residential location and the provision of human services: some directions for geographic research. Professional Geographer 31(3) 271-277
- Wyman, B C Owens, C K and Young, J C (1977): Recreation Facilities and
 Resources in the City of Lake Charles Lake Charles-McNeese
 Urban Observatory, Lk Charles
- Zisk, B H (1972): Local interest politics and municipal outputs, in People and Politics in Urban Societies ed. Hahn, H, Sage, Beverley Hills

Appendix

The Indices

During a program of field visits to all indoor leisure facilities in Havant Borough parameters were assessed facilitating the construction of an index of supply of leisure facilities. Ratings were produced for each facility reflecting quality, floor space, user convenience and centrality. The number of organisations using a facility, reflecting public access, and facility repair were used as indicators of quality. A threefold ranking system was employed in both cases:

1 4+ 0	rganisations	New/Recent	decoration
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2 2-4 organisations Post War

3 l organisation Pre war facilities poor woodwork

The scores of each facility on these two parameters was summed and converted to a standard score (%). Summation of the standard scores produced a ward total which was corrected for the number of facilities per ward. A similar process was followed with each supply indicator. Floor space estimated from 6" OS plans was condensed to three categories corresponding to single huts, 'hall' type facilities and multi-room 'centres'. User convenience reflected, in three categories, bus convenience and car convenience:

1	bus stop within frontage	own car park > 10 cars
2	bus stop < 200m	street parking
3	bus stop > 200m	no parking

Car use, as noted in the text, was weighted by a factor of two; the normal standard score procedure then applied. Finally centrality reflected standard scores of the distance of each facility from a hypothetical optimum location at the ward population centre of gravity.

The demand index involved construction of standard scores reflecting ward % socio-economic groups 1 and 2, % registered leisure groups, % total population, % single parent families, % > 40, % retired; with the exception of the second parameter all data was from the 1971 census. The first two parameters indicated existing user demand, the last four potential demand. Existing user demand was seen as a subset of

potential demand, as a consequence existing user demand plus potential demand indicated a situation biased to the existing user-efficiency maximisation. Potential demand minus existing user demand on the other hand illustrated the impact maximising possibilities of new centres.

Cowplain -0.5 -0.26 -0.3 1.59 0.53 10 0.68 -0.34 0.34 1 -0.39 -1.49 0.51 -0.37 Waterloo -0.37 -0.01 0.11 0.12 -0.15 6 1.02 0.43 0.59 0.06 0.02 -1.04 -0.25 -1.22 Stakes -2.0 -0.99 -0.95 -2.09 -6.03 1 -0.35 -0.80 -0.43 0.34 0.16 0.44 -0.05 0.89 Purbrook 0.06 0.02 -0.08 0.53 0.49 9 -0.01 -0.34 -0.35 -0.9 0.36 -0.74 -0.72 -2.00 Bedhampton 0.27 -0.19 -0.74 0.46 -0.20 4 -0.01 -0.09 -0.1 -1.25 0.76 0.44 0.82 0.77 S Faiths -1.16 2.7 0.31 1.21 3.06 14 1.13 2.97 4.1 0.31 0.36 -0.59 0.90 0.98 Barrieroft 0.5 -0.99 0.75 -0.65 -0.39 3 -1.27 -1.0 -1.28 0.93 -1.97 0.33 1.33 0.62 Battins -0.25 -0.12 0.22 0.72 0.57 11 -1.27 -0.2 -1.25 -0.34 -0.92 -0.14 -1.37 -2.77 Bondfields -1.16 -0.7 0.56 -0.75 -2.05 2 -1.39 -0.51 -1.9 0.46 -1.21 0.89 0.35 0.5 Warren -0.55 1.01 -0.35 0.75 0.86 12 -1.5 -0.93 -2.43 1.84 -1.21 1.64 1.63 3.9 Emsworth -0.3 1.10 -0.72 0.81 0.89 13 1.37 1.27 2.64 -0.93 1.15 0 0.89 1.11 Hayling E 1.85 0.38 -0.74 -1.66 -0.17 5 -0.12 -0.28 -0.4 -1.31 1.58 1.49 -1.1 0.75	The Data	Quality	Floor Space	User Convenience	Centrality	Supply Index	Rank 14 = best 1 = worst	% Soc Ec 1 + 2	% Groups	Existing User Demand	Oh < %	% Pensiorable	" Single Parent	% Pop	Potential Demand
SUPPLY DEMAND	Cowplain Waterloo Stakes Purbrook Bedhampton S Faiths Barncroft Battins Bondfields Warren Emsworth Hayling E	-0.5 -0.37 -2.0 0.06 0.27 -1.16 0.5 -0.25 -1.16 -0.55 -0.3	-0.26 -0.01 -0.99 0.02 -0.19 2.7 -0.99 -0.12 -0.7 1.01 1.10 0.38	-0.3 0.11 -0.95 -0.08 -0.74 0.31 0.75 0.22 0.56 -0.35 -0.72 -0.74 -0.26	1.59 0.12 -2.09 0.53 0.46 1.21 -0.65 0.72 -0.75 0.81 -1.66 -0.81	0.53 -0.15 -6.03 0.49 -0.20 3.06 -0.39 0.57 -2.05 0.89	10 6 1 9 4 14 3 11 2 12 13 5	0.68 1.02 -0.35 -0.01 -0.01 1.13 -1.27 -1.27 -1.39 -1.5 1.37	-0.34 0.43 -0.80 -0.34 -0.09 2.97 -1.0 -0.2 -0.51 -0.93 1.27	0.34 0.59 -0.43 -0.35 -0.1 4.1 -1.28 -1.25 -1.9 -2.43 2.64	1 0.06 0.34 -0.9 -1.25 0.31 0.93 -0.34 0.46 1.84 -0.93 -1.31 -1.18	-0.39 0.02 0.16 0.36 0.76 0.36 -1.97 -0.92 -1.21 -1.21 1.15 1.58 1.15	-1.49 -1.04 0.44 -0.74 0.44 -0.59 0.33 -0.14 0.89 1.64	0.51 -0.25 -0.05 -0.72 0.82 0.90 1.33 -1.37 0.35 1.63 0.89	0.5

The existing user and potential demand indices were standardised for their numbers of variables by dividing by two and four respectively and impact and efficiency maximising indices calculated as above.

	TPP a amou	Rank 14 = b est	Twood	Rank 14 = best
	Efficency	14 - Dest	Impact	
Hartplain	0.34	. 15	- 0.36	5
Cowplain	0.08	10	- 0.26	7
Waterloo	-0.01	7	-0. 59	4
Stakes	0.01	9	0.43	11
Purbrock	-0.67	3	- 0.33	6
Bedhampton	0.14	11	0.24	9
St Faiths	2.29	14	-1.81	1
Barncroft	-0.49	4	0.79	12
Battins	-1.31	l	-0.07	8
Bondfields	-0. 83	2	1.07	13
Warren	-0.24	5	2.18	14
Emsworth	1.60	13	-1.04	3
Hayling E	-0.19	6	-1.29	2
Hayling W	-O.Ol	7	0.39	10

