THE LAND USE MAP IN BRITISH LOCAL PLANNING

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The purpose of this paper is to present, in the brief span of time available to me, some thoughts on the role of the land use map in British local planning. The topic is a large one and I am unable to present all of the arguments and ideas so I shall concentrate on what I feel are some salient points. Cartographers, especially those in the field of computer assisted cartography, tend to be optimistic and many of them come close to resembling automated versions of the cartographic Billy Grahams mentioned by Professor Robinson this morning. The result often is a difficulty in clearly distinguishing potential from reality and to be constantly arguing on the basis of what ought to be rather than what can be in the light of existing circumstances. Julius Nyerere of Tanzania once said, "While others try to reach the moon we try to reach the villages" and I would suggest that there are analogies to this viewpoint in the field of cartography and that our optimism for the potential of our new mapping processes and techniques be tempered by a degree of pragmatic realism.

I am in the midst of a research project funded by the Department of the Environment in Britain. The Department of the Environment asked the Experimental Cartography Unit, now a research arm of the Natural Environment Research Council, to examine the current role of land use mapping in local planning in Britain with a view to determining if the automation of map production would lead to an improvement. I was asked, as an outsider, presumably not belonging to either the central government or local government, to be senior researcher in the project. The first stage of the project was a survey of 15 selected local authorities in Britain and this was completed over the course of the summer. Consequently the data which I am using as a basis for this paper are very recent indeed.

The main thrust of the arguments I am going to make today is that in the real world of local planning in Britain the land use map, despite our feelings as cartographers, is currently felt to be of very limited use. The reasons for this are:

- Land use maps are historical documents which are constantly outdated by changing situations.

- The amount of analysis possible from such maps is limited. The data on them are not quantifiable, at a time when planning is increasingly interested in quantities and statistical information.

- Maps of this type are expensive to prepare and reproduce.

- Such maps lack scale flexibility, and there are both problems and costs involved in setting a synoptic picture from the multiple large-scale sheets required to cover a county or district.

- The costs of a full scale base survey of land use are high.

The conceptual base and methods of map production will have to change. The map must become part of the overall management of information relating to land and, whether this information is managed by computer or by manual means, it is clear that

the map is only peripheral at present. Like many cartographers, I see the advent of the digital map as giving us the potential technical tool to revolutionize land use mapping but, rather than concentrate on extolling the potential advantages that computer-aided cartography can bring like so many other speakers have done, I want to concentrate on some of the problems which must be overcome before that potential can be realized. My examples will be drawn from British local planning. I cannot cover all areas of concern but it is obvious that the problems fall into two main areas:

- The organizational and administrative, and

- The technical

Before proceeding further I think a little background information and definitions are in order. First, what is meant by local planning? British planning has always had a strong "control" element with effective control residing largely at the local level. Local government has recently been reorganized in a major way with structural changes coming into effect in England and Wales in 1974 and in Scotland in 1975. The main result of these changes has been the reduction in the number of authorities and a reducing of many boundaries. There has also been a change in the responsibilities of authorities. The situation in very simplistic terms is that there are a number of counties with a statutory responsibility for what are known as structure plans, and a number of districts within each county which have a statutory responsibility for local plans. I am using the term local planning to refer to both counties and districts. The district responsibilities are seen as the detailed application of broader planning strategies determined by the county councils. Consequently, the county structure plan would set the conceptual planning framework in which each district would implement district, topic or area plans. Planning permission involves consultation between county and district and although it is relatively easy to determine which topics are clearly county matters, such as highways, and which topics are clearly district matters, such as planning permission for household alterations, there is a large "grey" area where the responsibilities are much harder to define.

From the outset, and perhaps not surprisingly, the definition of land use and hence land use maps posed problems. Section 22(i) of the Town and County Planning Act suggests that the "control" definition would be largely related to, "...the carrying out of building, engineering, mining or other operations in, on, over or under land, or the making of any material change in the use of any buildings or other land." Thus "operations" or "uses of land" are stressed. (Here it is worth noting that local authorities have only very limited control over agricultural land. Planning permission is required only for farm houses not other buildings or uses.) It became obvious from the outset of our survey, however, that concentration on the control function alone would miss important issues relating to land use and land use mapping. The concept of physical planning to which the control type definition applies was seen by the local authorities only as part of the planning process, a means to an end rather than an end in itself. The process of land use "control" and land use "planning" was often seen as an inseparable part of a corporate planning process. A clear indication of this was given from the way several local authorities collected and stored information relating to land. Information both on the uses and the activities relating to an individual property were being recorded. Land use is therefore defined, or rather defined itself, both in terms of activities on the land and of the operational use of that land.

Earlier I suggested that if the map is to be useful then it must become part of the overall management of information relating to land and identified two broad problem areas to be overcome before this can be achieved, i.e., first in the organizational and administrative field and secondly, in the technical field.

Here I should like to re-emphasize a basic point which has been made many times before: information management cannot be separated from the overall management process. Consequently if the map is to become part of this process then both the technical problems _and_ the conceptual and administrative problems will have to be overcome. If cartographers are to be user oriented then it is simply not good enough to concentrate only on technical and conceptual problems and to suggest as some do that we should limit our activities to that area only. In the field of land use mapping, if we use the analogy of the car designer that Arther Robinson brought up this morning, then perhaps our starting point should be the management system, the problems it faces, the resources it has and how the map can fit. From this a variety of possible technical solutions will emerge. We have enough examples of mapping systems being designed whose aggrieved originators claim are not welcomed or fully utilized by the user. The only person to blame for this is the designer. Cartographers tend to assume that the value of the map is so obvious that everyone within the local authority structures both realizes and accepts this. Our survey has revealed that for Britain this is simply not so. The level of "graphic awareness" varied enormously from authority to authority but, although there were bright spots, the level of awareness of the value of maps was low. There is clearly a need for more cartographic education and proselytizing.

It is perhaps ironic that it is the computer and statistically critical planners who will be the most difficult to convince. In none of the large computer-based information systems being built by local authorities in Britain has the map been integrated to any extent. Computer-aided cartography cannot be considered separately from the overall management of data by computer; the map should be seen as an integral part of the data system, not simply as an afterthought added on for cosmetic purposes, as tends to be the case at present. Those who have had so much difficulty themselves in having computer-based information systems accepted will in turn have to be convinced of the value of integrating the map into their systems. This is but one small part of the wider problem revealed in the presentations and discussions this morning between Robinson, Bachi, Jenks and Tobler, and the unanswered questions which remain.

In Britain, the first step in land use map design is an examination of the planning aims of the authorities concerned, the physical and human resources available to them, and the way in which information relating to land is managed. One might argue is this the cartographer's responsibility? Surely we should be given defined needs as perceived by the user and simply provide the technical expertise to meet these needs? My point is that if the cartographer does not _start_ with the organizational and administrative milieux in which his product is to be used he may end up providing a virtually useless product. It is no use designing a beautiful and highly efficient Cadillac if all your users want is a 150 cc. Honda!

As time is short, very briefly more of the technical problems that arise are:

- Data collection and update
- Point, area and line segment systems

- Scale of unit -- where is the scale
- Etc.