A primary step in the transportation planning process is the estimation of future travel demands. This estimation is carried out in a series of inter-related operations. The basic task is the determination of the number of trios emanating from or attracted to a traffic zone, an area of land, or other unit of generation.

The household is a well-defined unit and has proved to be a fairly stable and predictable trip-generator. Furthermore, the dwelling is a suitable place for collecting data and constitutes one of the ends of the majority of the trips. We can, thus, understand the reasons which led to the development of techniques of survey and analysis relating to the household.

However, the most serious traffic problems often occur at the non-home ends of the trips and it is surprising that much less effort has been devoted to the understanding of the causes of attraction and to the establishment of the relationships between the characteristics of different land-uses and their power for trip-generation (see Chapter I).

Some studies have been carried out for shopping centres, industrial estates, universities, office buildings, etc, as trip-attractors [See, for instance, (H.R.B. - 1966); (H.R.B. - 1969) and (Shuldiner, 1965)]. The variety and number of the dependent and independent variables of the generation expressions used in different studies is considerable (See Appendix I). The dependent variables chosen are mainly dictated by the specific purpose of the study --- e.g. the number of public transport person-trips would be a suitable dependent variable in a study for public transport planning. The choice of the independent variables is, in many cases, dictated by the availability of data.

Improvement in non-residential trip-generation estimation is likely to be achieved through a greater level of detail in the data and stratification of land-use classes (See Chapter II). Similar improvements have been made in the development of the techniques of trip-end estimation for residential areas; early techniques were predicated on a zonal basis and have progressed to the analysis of detailed household characteristics as causal factors (Douglas & Lewis, 1970-71).

The broad objective of this study is to examine non-residential land-uses and to analyse the information requirements for the estimation of the corresponding number of generated trips. Due to the shortness of time available, the broad objective cannot be achieved for a large variety of land-uses. Hence we have concentrated on two specific land-uses --- colleges and hospitals.

Both colleges and hospitals keep detailed records of a range of factors varying from the personal details of people using the buildings to physical descriptions of the land-use. This is discussed further in Chapter III.

The specific objectives of this study are, therefore:

(a) to examine the type of information which is normally collected and stored for internal administration purposes by these two land-use activities in Britain;
(b) - to examine trip-generation models used in the United States, concerning hospitals and universities;

(c) - to compare the data base required for these models with the data normally available in the United Kingdom;

(d) - to establish from (a) and (c) the type of independent variables which could easily be included in trip-generation models without recourse to special land-use surveys.

It is considered that, by satisfaction of these specific objectives, inferences can be drawn as to the information requirements of non-residential land-uses in general.