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ABSTRACT

Evolution of indicators associated with the measurement of the conectivity and utility of the nets of transport.

The study of the distribution of the transport in a city has followed, traditionally, methods of estimation of the style that is unsifted in called " methods of demand ".

The philosophy of these methods can be defined in that from a spatial distribution of the activities and a trend of evolution is possible to predict the spatial expression of the future demand of communication and transport to adapt the organization of the net to this demand.

This approach has spread to the project and estimation of the rest of the nets of infrastructures, as if the form, the organization and the levels of service of these did not have any more requirements that the satisfaction of his potential demand.

It is paradoxical that the beginning of this type of approaches in the engineering was initiated with the studies of Mitchell and Rapkin that with the title" Transport and Uses of the Soil " with that thet demostrated the intimate dependence between both in both senses, that is to say, understanding also that the offer and organizational form of the nets determines also the spatial expression of the activities, its occupation of the territory and, therefore, the future demand of transport.

The present thesis starts with the description of the so called models of demand inside the field of the nets in in the engineering and with the limitations that these present in the planning of the transport in contraposition with the models of offer, its utility and its state of evolution.

By means of a bibliographical and documentary analysis as well as of an analysis of applications on the base of existing works into the Section of Urbanism of the UPC it demonstrates as the mathematics, thanks to the theory of graphos, they can help to define a net of comuniaciones understood as arches that make connections possible and later to show its application to the net of highways.

The analysis of graphos has generated multitude of indicators of centrality, conectivity and accessibility that are important for its utility as meters of the offer viaria and like señalizadores of the potential associated with the territorial ordination.

The accessibility appears as an element inherent in the physical organization of the space and of the systems of movements and the most used indicators are different expressions of it.

Starting with a summary of the evolution of the classic models the thesis describe how to use the accessibility to detect impacts in the location of activities, analyzing the case of Barcelona, as well as its use in the selection of investments in highways and its utility in the selection of investments for area of impact.

Finally the thesis analyzes the concept of Municipal Plan of Mobility, describing which is its aim and its typology and mentioning the example of the Plan of Sabadell's mobility.