

## **ABSTRACT**

The objective of this thesis is the design of a methodology that allows an objective evaluation of the effects of operation, or of the possible setting in service, of a demand responsive transport system, in an area of low population density.

The demand responsive transport systems appears, at the beginning of the seventies in the United States, with the objective of offering a public service adapted to the new transport demands. In Europe, these systems begin to be used some years later with the objective of promoting a sustainable mobility and a social equity. In Spain, this type of systems is almost not used. Therefore, the first task that has been carried out in this thesis is the construction of the necessary adequate conceptual and theoretical framework to develop a proper evaluation methodology.

The review and analysis of the evaluation methodologies of this kind of systems, together with the clarification of the low density areas transport problems, those that suffer certain social groups, and the possibilities that these systems offer to solve those problems, make conspicuous the need of completion the current practice with tools that allow to quantify and to evaluate the operation, or setting in service, of a demand responsive transport system.

The proposed methodology is wide enough to be applied with any system typology, and in any situation that one of these systems could be used (metropolitan areas, rural areas, etc.). However, at the same time, it is detailed enough to quantify improvements of mobility and accessibility, modal changes, and benefits for the users and for the society.

The practical application of this methodology in the Metropolitan Area of Granada proves the validity of the proposed methodology as well as the reliability of the used indicators and parameters.