

ABSTRACT

The urban routes of circumvallation or urban freeways that surround the cities are one of the solutions on great scale more usually implanted to improve the circulatory set. They are fast routes of great capacity that quickly acquire a great specific weight inside the urban plot. The origin of these routes is in the rounds that appear in the space which occupied the walls and the oldest case is of XVIII century, the Ringstrasse of Vienna. The route went away freeing, progressively, of the weave constructed and secreting themselves of the rest of routes, until arriving at the present urban freeway. An example is the Via de Cintura of Palma de Mallorca, whose construction was absolutely necessary to favor the entrances and exits of Palma and to clear the Paseo Maritimo and the Avenidas. These are an example of the round that replaced the walls.

The design of a Traffic Management System is thought to increase the efficiency and capacity of the transport system and to improve its security. The system of traffic control consists of essence in devices that allow to detect the anomalous situations, a control center in which the information of the detectors are received and the pertinent decisions are adopted, and a medium to communicate these decisions to the conductors, generally, by means of variable and remotely piloted signals.

The pick up systems are the ones in charge of the pick up of traffic data, specially speed, flow and density. These data are sent to the control center where they are treated by means of algorithms and a continuous map of the state of the traffic settles down, a data base is generated and it is simulated to analyze concrete situations. There are many types and very diverse technologies, although they emphasize the loop detectors, cradles in the principle of the inductance.

In the control center the management of the traffic is carried out, the different information is received and the opportune decisions are taken. The control techniques are diverse, although in our country they are closely bound to the information to the user. Very important techniques as the ramp metering or the linear management of the speed does not finish coming to the light, among other causes by the indiscipline of the conductors. The strategies to increase the capacity of the routes are diverse, between which they emphasize the reversible tracks, in in opposition to habitual sense and the additional ones.

The information systems applied to the field of the transports are many. Going through the fixed signaling, the radio messages, the panels of variable message, widely used, until Internet or navigation by satellite. The information pre-travels allows the users to choose the way of transport ,itinerary and the hour strip that agrees to him more. The information during the trip allows to be informed to the conductors, coming up on incidences allowing them to avoid the affected zone. An well informed conductor is a more surely driver more surely.

Numerous previous experiences in the implantation of this type of systems exist. The cases of Rondas of Malaga and Barcelona have been studied. First, by similarity between cities and the second, by proximity. Also some of the carried out concrete experiencias by European cities have been introduced.

Before the implantation of this type of system in the Via de Cintura of Palma de Mallorca, the main lines that must follow this system have been defined. A brief description of the installed general components is included and aspects such as objective and benefits, functional requirements, requirements of execution, mechanisms of information to the user, as well as a study of future improvements to consider.

Finally, a study of economic benefits has been carried out. The generated economic benefits based on the reduction of the time of trip, of use of the vehicle, emission of polluting agents and accidents are considered. The obtained results totally justify the made investment.