

Rotunda construction estimated cost calculation method.

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In the last few years, the application of the solution Rotunda, also known as square has been profusely extended in the network intersection in Catalonia. Even so, an effort of synthesis and systematisation of the gathered experience hasn't been done yet.

Nevertheless, Public administration care planning to build a lot more in the next few years. The planners and programmers don't have got enough tools yet to enable them to make up decisions with full knowledge of the facts, especially as for the construction costs.

It's a question of getting from the research of rotondas built by the Generalitat in Catalonia in the last years, the variables which have a significant influence on the cost and correlate them, getting a method to allow finding the estimative cost of construction when you only have the usual data with regard to the previous research.

In this way we can distinguish five basic tasks carried out to achieve this purpose:

-Analysing about two hundred designs concerning the built rotondas or those under construction by the Generalitat in Catalonia in the last eight years, getting the main data which characterize it, both data in use (traffic, environment) and geometric data (radius, roadbed length, pavement breadth, surfaces), data of component elements (roadbed, drain, lighting, garden laid out, sign postings), management data (date of execution, responsible members) and the resultant construction costs. The data processing made up will be characterized in this section. The reason of the election of each variable will be explained in Microsoft Access as well as the role of the variable in the results obtention.

-Carrying out a statistical analysis to distinguish the typologies of built rotondas. In this analysis, circular distribution diagrams to know rotondas statistics in Catalonia will be made, taking into account some respects (point of view), such as geometry, geology, typology concerning to drain, paving, gardens laid out, lighting. Moreover crossed statistics will be carried out, that's to say, taking into account two classifications simultaneously: the date of construction and the province will usually be present at these crossed statistics.

-Performing a statistical analysis from the different data correlations to allow identifying the data, which have a relevant influence on its cost, in order to get a formula, which allows determining the construction cost from it. In this subject the variables, which occur in this formula, must be determined with accuracy as well as the methods, which are used to get the last result.

-Measuring the formula rates from the analysed designs data and evaluating the confidence degree achieved; to do so the program SPSS will be used for that aim, through which we will make regressions, getting in this way the pertinent coefficients for the application of the formula, getting at the same time the degree of confidence of these coefficients, since they are necessary to know if our method is valid or it isn't.

-Making up lists and monograms as well as the pertinent documents to enable the planners the application of methods in terms of kind of rotunda to build, as we will see in the first chapters, there is a series of conditionings, which are differed in each rotunda and must be taken into account before carrying out any regression. If the mentioned distinction hadn't been done our model would be adulterated. Well, we will give a generic formula they will later be able to particularize in each case inside each field belonging to the construction of rotondas, land movements, drains, roadbeds, sign postings, applying the necessary coefficients to do so.