

TITLE OF MASTER THESIS

Dynamic Planning of Construction Site for Road Infrastructure Projects

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ABSTRACT

Dynamic planning of construction site is an unexplored part of the process of a project execution, according to its absence of the available literature. The aim of this study is to highlight this issue and to explore its value through practical applications of constructed projects. For this purpose, factors influencing the location of the construction site and then the costs resulting from the selection of this position for the whole project, were examined. The location with the minimum cost and the best matching with the initial conditions, is the position that should be installed on the construction site. In addition, to examine the dynamic sector of this problem, the ideal location of the site is considered, at shorter intervals, which involves a different division of jobs and quantities per job, and thus possibly different results from the first one. The composition of these intervals with their respective costs adding the cost of relocating the site, give the total cost for the whole project. This cost is compared with the first one, and it is thus apparent whether it is advantageous to install a site in one or more locations. The results from the application of the above method in the two road projects indicate that the first project, which is small, does not require relocation, while in the second it involves quite a lot of technical and large quantities, the benefits are satisfactory. For the correct implementation of the method, this should be done in parallel with the study of the project and the implementation methodology in order to be fully efficient. This method, if properly implemented by a construction company, could lead to a competitive advantage.

KEYWORDS

Dynamic planning, Construction site, relocation cost, Site location, Optimization.