World Academy of Science, Engineering and Technology
International Journal of Transport and Vehicle Engineering
Vol:11, No:08, 2017

Establishing the Optimum Location of a Single Tower Crane Using a Smart Mathematical Model

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Abstract : Due to the great development in construction and building field, there are many projects and huge works appeared which consume many construction materials. Accordingly, that causes difficulty in handling traditional transportation means (ordinary cranes) due to their limited capacity; there is an urgent need to use high capacity cranes such as tower cranes. However, with regard to their high expense, we have to take into consideration selecting what type of cranes to be utilized which has been discussed by many researchers. In this research, a proposed technique was created to select the suitable type of crane and the best place for crane erection, in addition to minimum radius for requested crane in order to minimize cost. To fulfill that target, a computer program is designed to numerate these problems, demonstrating an example explaining how to apply program and the result donated the best place.

Keywords : tower crane, jib length, operating time, location, feasible area
Conference Title : ICCECT 2017 : International Conference on Civil Engineering and City Transportation
Conference Location : New York, United States
Conference Dates : August 07-08, 2017