OPTIMAL LOCATION SELECTION OF NGV-SERVICE STATION BY USING ANALYTICAL HIERARCHY PROCESS AND SENSITIVITY ANALYSIS

by

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ABSTRACT

This paper presents a multi-criteria decision making (MCDM) methodology for the location problem to demonstrate the most preferable selection of the optimal location of NGV-service station. Because of the coming global oil crisis and the high oil price make people to search for other alternative energy that help them to afford it in a convenient way. The natural gas for vehicle is a chosen one that is interested in considering in order to seize this moment. The location problem of this situation is necessary to consider. To illustrate the application of the analytical hierarchy process (AHP) and sensitivity analysis for selecting the best among three locations under seven criteria concerned. This approach is a flexible decision making process to set priorities and obtain the weights for selecting the best location. Sensitivity analysis is conducted by varying the criteria decision weight for the change of location. This demonstration of this result is beneficial to make a decision on selecting location or applying to other location selections that more closely fit problem needs.

KEYWORDS

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