

A Bi-Objective Stochastic Programming Model for the Household Waste Collection and Transportation Problem: Case of the City of Sousse

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This paper aims to develop a model for the household waste collection and transportation problem in the city of Sousse, one of the largest cities in Tunisia. The proposed model is a bi-objective stochastic program that minimizes the collection costs and the total number of bins subject to some technical, environmental and economic aspects. A certainty equivalent program to the bi-objective stochastic program is developed based on a chance-constrained, a recourse and a goal-programming approaches. The model is tested using real data from Eco-Tunisia and the municipality of Sousse.