

# **Fuzzy Aggregation Operators Approach to the Emergency Service Facilities Location Problem**

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This paper presents the construction of a new model for the fuzzy facility location problem. A fuzzy aggregation operators approach for formation and representing of expert's knowledge on the parameters of emergency service facility location planning is developed. A new objective function is constructed, which is the maximization of centers' selection ranking index. This function together with two classical objective functions, minimization of total cost for opening of service centers and minimization of number of agents needed to operate the opened service centers', creates the fuzzy multi-objective facility location set covering problem. A simulation example of emergency service facility location planning for a city is considered. The example looks into the problem of planning fire stations locations in to serve emergency situations in specific demand points – critical infrastructure objects.