FACILITY LOCATION PROBLEM FOR SUPPLY CENTER OF SCHOOL LUNCH

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1 Abstract

Recently providing suitable lunch to the student of elementary school etc is very important problem. To realize suitable lunch, we should consider the construction of supply center at the suitable place at first and so we consider the following facility location problem. There are schools in an urban area. We consider the construction site of new supply center providing lunch for these schools. The trader delivers ingredients to the supply center every morning. After receiving these ingredients, the supply center starts to make lunch. Lunch for all schools should be ready on delivery time. The delivery cars must deliver lunch to be till lunch time of each school. For that purpose, we divide schools into groups corresponding to delivery cars. Considering rectilinear distance from the finite possible sites of center to trader and all schools, we choose the best site of the center by minimizing the latest delivery time of lunch among all schools. Under the above setting, we propose an effective solution procedure to find the most suitable site of the center.

Next, we consider the above problem into the case that possible construction sites are restricted to the point of disjoint rectangular areas. We extend the solution procedure of finite possible sites and manage to construct solution procedure.

Finally, we summarize the result of the paper and discuss future research problems.