Analysis for shortest path distance of household garbage collecting routes using GIS

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In Japan, the garbage collecting sites are decided by the inhabitants. Many garbage collection sites are located around the residential area have easy access to the residents but it often become random for garbage collection car. It is major problem in Tsukuba City. Therefore, in this research, I would like to solve this problem by identifying most accessible routes for garbage collections. The main purpose of this research is to analyze accessibility of household garbage collection routes using Network Analyst tool. Road data, Z-map, town boundary and the rubbish collecting sites data which is acquired by GPS during the course of fieldwork are used as main source of data. A well defined GPS data collection form was developed in ArcPad 7.1 platform and used in the fieldwork. The preliminary results show the distance between one garbage collection site and the other site ranges from 48 meters to 244 meters. In Tsukuba city, most of the sites in Sakura area have close proximity as compared to Kurihara area. It is because of Sakura area consist of many apartments whereas Kurihara area forms rural landscape with single family residential units.