Abstract

Service area in this paper is defined as a place along the a major road where facilities such as rest rooms, restaurants, repair shops, prayer rooms, and so on offer services to the public. The purposes of such an area are to provide a safe place for passengers and drivers to rest and to meet them and their vehicles with basic necessities. Various studies have been performed regarding the location, planning, and designing of service areas in many countries. Some studies have been recently conducted in Iran as well. This paper develops a solution based approach to modeling site selection for service areas along the road sides in the country. It defines the parameters affecting the site selection and modeling of site selection for service areas. Frameworks of formulating different scenarios for locating the service areas are proposed. The frameworks take into account distances between the service areas, their numbers, required facilities in such places, traffic volume and composition, demand for using of the area, and the size of the facilities and the attributes of the land needed. Factors influencing the location of service areas are explained. Finally, a dynamic programming optimization model for solving the multiple attribute decision making problems is introduced.

Key words: *Dynamic programming; Locating; Modeling; Rest Area, Service Area, Multiple Attribute Decision Making.*