

**Li, Y. *Facility Location Theory*:  
Literature survey, Report 2003.TL.6805, Transport Engineering and Logistics.**

Logistics, as defined by the Council of Logistics Management, is "that part of the supply chain process that plans, implements and controls the efficient, effective flow and storage of goods, services, and related information from the point of origin to the point of consumption in order to meet customers' requirements." [D.R. Sule *Logistics of Facility Location and Allocation* Marcel Dekker, New York, 2001] Important aspects of logistics are vendor selection, order processing, order follow-up, order quantity, ordering frequency, inventory control, storage, intra-facility material handling, selection of facility (warehouse, plant, etc.) locations, and layout within facilities and transportation.

Improving facility location and layout are very important in saving the total cost of the logistics process and better serving customers. Location of facilities also determines the distribution pattern and associated properties of the distribution pattern, such as time, and cost, in the logistics supply chain system. Placement of facilities at optimum locations and allocating customers to them in the best way will improve the flow of material and services offered by facilities to the customer, but also utilizes the facilities in an optimum manner, so reducing redundant facilities.

This report delineates the classification of facility location problem and introduces some of the basic of qualitative methods and quantitative models to solve the facility location problem. In the end of this report, an application of facility location problem is given and also special software for facility location problem is introduced.

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