

LUCHA POOWONGSAROJ : SOLID WASTE COLLECTION PLANNING IN THE CBD OF BANGKOK METROPOLITAN AREA: A CASE STUDY OF BANG RAK DISTRICT. THESIS ADVISOR: ASSO. JARUWAN LIMPASANEE, Ed.D., 307 PP. ISBN 974-579-963-7

This study of thesis is to investigate the amount of solid waste, its problem, and projection of the growth rate of landuse economic activities and solid waste, and to propose the service pattern, its routing, the efficiency of operation cost for collection of solid wastes.

It was found that the amount of collected solid wastes in CBD of Bangkok Metropolitan Area, amount to 2,000 ton./day. The collected on Pranakorn side is more than 5 times of Thonburi side, and the suburb area is small. The inner districts generate 1,000-2,000 gm./person/day, the middle districts generate 600-900 gm./person/day and the outer districts generate 100-500 gm./person/day of solid wastes..

It was found that the growth rate of Economic Activity Land-Use during 1975-1985, is high in residential activities are 3.44% /year, and 2.59% /year in Mahaphataram and Bang Rak Sub-district respectively. The highest of commercial activities are 4.92% /year, and 0.38% /year in Bang Rak and Surawong Sub-district respectively. The highest of industrial activities are 2.62% /year, and 2.35% /year in Silom and Sipraya Sub-district respectively.

To forecast a new Economic Activity Land-use in 1995 and 2000. The highest growth rate of residential are 63.37 and 65.16% /year in 1995 in Mahaprataram and Silom Sub-district respectively, in 2000 are 73.31 and 65.29% /year respectively. The highest growth rate of commercial are 75.41% /year, in Surawong and Bang Rak Sub-district in 1995-2000. The highest growth rate of commercial are 77.42 and 76.72% /year in Bang Rak and Surawong Sub-district respectively in 2000. The highest growth rate of industrial are 7.39 and 4.85% /year in Mahaprataram and Sipraya Sub-district respectively in 1995, in 2000 we found that the highest growth rate of industrial are 5.35 and 5.26% /year in Sipraya and Mahaprataram Sub-district respectively. The growth rate of building construction registration in 1989-1990 is 10.82% /year while the solid wastes/generate 1.61 ton/day of which this amount, save of solid wastes had been separated. In 1995, 2000 the solid wastes in Bang Rak District will be 139.81, and 151.43 ton/day respectively.

Bang Rak District is the highest efficient solid waste collection by it trucks and personnel. The amount of collected solid wastes is 274.00 man-minute/ton this excellent efficiency by compressor truck number 1180. The lowest efficiency by ordinary side loading truck number 967 is 605.67 man-minute/ton. The total operating cost of collecting solid waste is 37,439.08 Baht/day. An average operating cost of collecting truck is 1,580.86 Baht/trip/day in the amount of 130 ton/day, an approximate expenditure of 288 Baht/ton during the budget year of 1991 for collection of solid waste. To propose new collection system of solid waste by determination expenditure of 35,109.10 Baht/day. The amount of collected solid waste would be 130 ton/day. The collecting solid waste operation cost would be 270 Baht/ton. In month we can save the budget of 69,899.40 Baht, and 'year we can save the budget of on operating cost 850,443 Baht.