

A Review on Route Optimization of Sewage Collection Using ArcGIS Software

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Abstract- Due to urbanization and globalization there is an increase in the solid waste. This solid waste must be managed effectively and efficiently for reducing problems such as health effects, environmental effects and numerous effects which has a great impact on the society. The main objective of this paper is to create a optimum route for solid waste collection from Vallabh Nagar to Moshi Dumping Station using ArcGIS software. The optimum route which would be suggested will be cost effective, the total time for solid waste handling will be less, the fuel consumption will be reduced .

Keywords- GIS, Solid waste, route optimization, sustainable development

sublocality in Pimpri, Pimpri Chinchwad. Moshi is one of the prominent suburb of Pimpri-Chinchwad which is situated at the theDehu - Alandi road and the intersection of Pune - Nashik (NH 50) road and is connected to most of the cities and suburbs in Maharashtra. Due to rapid increase in population and changes in life style , the Quantity and quality of mixed solid waste in PCMC city has changed. Presently, PCMC is facing major challenges of public awareness, and mixed solid waste management. The waste generated in this area is approximately 1980kg & it is managed by two private agencies namely BWG and Anthri AG Private Limited.

I. INTRODUCTION

Due to urbanization, there is an increase in the solid waste and the municipal solid waste in some areas is not collected effectively. Due to this there are various problems arising such as people are suffering from various health issues like fever, typhoid etc. It also adversely affects the environmental conditions such as air pollution , water and soil contamination and it can also lead to climate change. Solid waste collection and its effective handling are very important for a country's overall development. Remote sensing and GIS always play a vital role in transportation and urban planning applications

In this research paper we have tried to analyze the existing solid waste management route and we are proposing a optimum or a shortest route for effective handling and disposal of solid waste using ArcGIS software. Route optimization doesn't mean only the shortest path, but it will also enhance the proper utilization of the transportation. The satellite image will be analyzed in GIS software and then the solid waste collection points will be marked from Vallabh Nagar to Moshi Dumping Station.

II. STUDY AREA

The study area consists of the area from Vallabh Nagar To Moshi Dumping Station. Vallabh Nagar is an

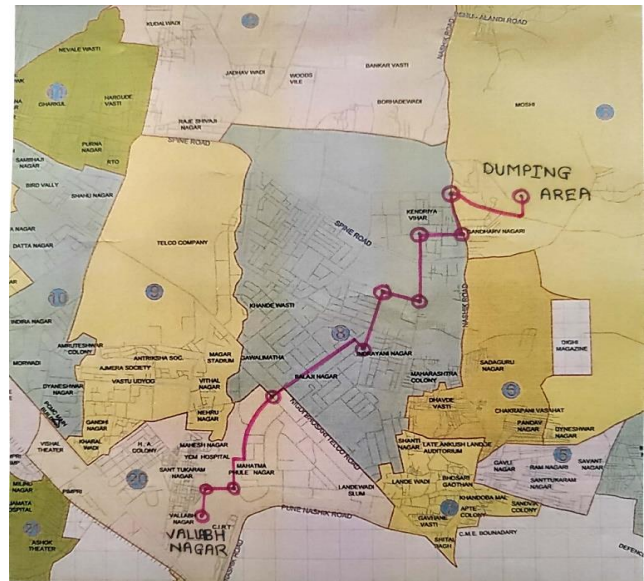
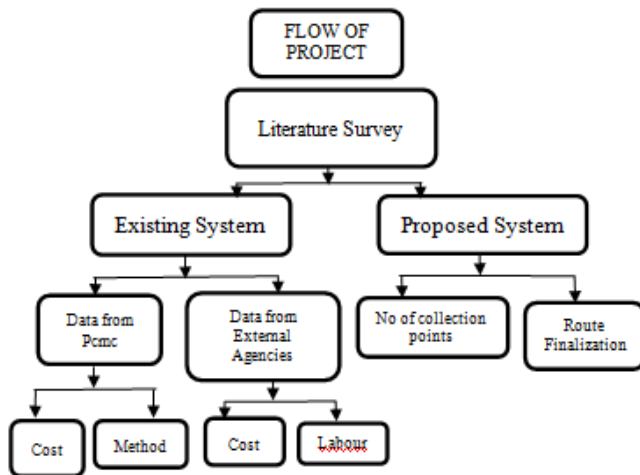


Fig 1 Study Area 1

III. METHODOLOGY

Physical survey of the route from Vallabh Nagar to Moshi Dumping Station, then analysis of the optimum route , finalizing the route and then model study.



IV. EXPECTED OUTCOME

Optimized route for solid waste management from Vallabh Nagar to Moshi Dumping Station which would be helpful for saving fuel consumption, and it would be cost effective .

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