

垃圾分类背景下成都市生活垃圾转运中心选址问题研究

摘 要

近年来，我国经济飞速发展，人们对生活水平要求也越来越高，随之而来的各类生活垃圾也快速增长，城市的发展被城市垃圾管理问题严重影响。当务之急，各国都在考虑如何解决生活垃圾的问题。生活垃圾清运系统是城市生活垃圾管理的首要环节，它是城市生活垃圾管理系统的重中之重，在整个系统中占有重要地位。垃圾收运是一种特殊物流系统，垃圾转运中心作为一种物流中心设施，是垃圾收运物流系统的枢纽和中心，因此，要提高整个垃圾转运系统的转运效率，就必须慎重考虑城市生活垃圾转运中心的选址布局。本文在垃圾分类的背景下，根据当前我国垃圾转运中心选址情况，结合成都市的基本情况，着重讨论成都市城市生活垃圾转运中心的选址优化问题，将垃圾分类理念贯穿整个垃圾收运系统，提高城市垃圾处理效率。

成都市作为新一线城市，经济快速发展，大量人口涌入，随之产生的各类生活垃圾也不断增多。由于垃圾产量在产生时难以全面直接进行统计计算，所以政府往往通过各类生活垃圾处理设施的垃圾处理总量来统计城市生活垃圾总产量。对于各行政区生活垃圾产量，通常与本地区的人口比例、经济发展水平等密切相关，因此在文中采用成都市各行政区的人口比例和经济综合排名来计算各自行政区域的垃圾产量。在资料收集阶段，通过查找相关官方网站和相关文献资料得到了成都市生活垃圾总产量。由于垃圾转运中心的布局常常需要满足一定服务年限的需求，因此在研究中首先通过指数平滑法对成都市近十年的垃圾产量进行预测。其次再综合运用 Lingo 模型、重心法等方法进行分析运算，最终得到优化方案，为成都市提供一种密切联系垃圾分类理念的垃圾转运中心选址方案。

关键词：垃圾分类；生活垃圾转运中心；重心法；Lingo 模型

Abstract

In recent years, with the development of social economy, people's living standard is improving day by day, and urban domestic waste is also growing rapidly. Urban waste management is increasingly becoming an important issue affecting urban development, and the garbage collection and transportation system is the primary link of urban domestic waste management, which plays an important role in the urban domestic waste management system. Garbage collection and transportation is a special logistics system, and garbage transfer center is the hub and center of garbage collection and transportation logistics system. Therefore, the reasonable layout of urban domestic garbage transfer center plays an important role in improving the transfer efficiency of the whole garbage transfer system. Under the background of waste classification, according to the current location of waste transfer center in China, combined with the basic situation of Chengdu, this paper focuses on the optimization of the location of Chengdu Municipal Domestic Waste Transfer Center, and puts the concept of waste classification throughout the whole waste collection and transportation system to improve the efficiency of urban waste treatment.

As a new front-line City, Chengdu has a rapid economic development and a large number of people are pouring in, and all kinds of domestic garbage are also increasing. Because it is difficult to calculate the output of municipal solid waste directly when it is produced, the government often calculates the total output of municipal solid waste through the total amount of garbage treatment of various domestic waste treatment facilities. As for the domestic waste output of each administrative region, it is usually closely related to the population proportion and economic development level of the region. Therefore, the population proportion and economic comprehensive ranking of each administrative region of Chengdu are used to calculate the waste output of each administrative region. In the data collection stage, the total output of Chengdu municipal solid waste was obtained by searching relevant official websites and relevant literature. Because the layout of the waste transfer center often needs to meet the demand of a certain service life, so in the research, firstly, the waste output of Chengdu in the past decade is predicted by the exponential smoothing method. Secondly, lingo model, gravity center method and AHP are used to combine quantitative and qualitative calculation, and finally the optimization scheme is obtained, which provides a garbage transfer center location scheme closely related to the concept of garbage classification for Chengdu.

Keywords: waste classification; domestic waste transfer center; barycenter method; LINGO model

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