

Abstract

Gastro wastes, as a sort of biodegradable waste, has been established in legislation just quite recently, and its sorting is just in the beginning. However as a sort of waste it has a great potential like a secondary material. This work deals with gastro waste modelling and optimization of their cartage routes with purpose to decrease negative implications with them connected. For the model composition, the operational research was used, namely the transportation task or the circular transportation problem, further optimization (that includes the linear optimization and the index method.) The program ArcGIS and its extension Network Analyst from ERSI were used for delineation of transportation routes. Microsoft Excel, Visual Basic and Python were used for computation of optimization tasks. Final graphic output was carried out in the ArcGIS ArcMap. The results of this work are optimized trucking cartage routes, calculated values of minimal distances, quantity of cartage cars, calculated overall costs and other calculations. The part of this tasks is also time conversion of the model. Also, the attention was paid for minimization of trucking routes. The increase of the capacity of specific gastro waste processors was used for the minimization. These processors were chosen in accordance with required criterions. Further result is the graphic output of the model, which includes individual parts. The verification of the model was based on the territory of the Capital City of Prague. It showed itself like a proper solution for this issues.