

## **A Location Routing Model for the Logistic System in the Mining Collection Centers of the Northern Region of Boyacá-Colombia**

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**Abstract :** The main objective of this study is to design a mathematical model for the logistics of mining collection centers in the northern region of the department of Boyacá (Colombia), determining the structure that facilitates the flow of products along the supply chain. In order to achieve this, it is necessary to define a suitable design of the distribution network, taking into account the products, customer's characteristics and the availability of information. Likewise, some other aspects must be defined, such as number and capacity of collection centers to establish, routes that must be taken to deliver products to the customers, among others. This research will use one of the operation research problems, which is used in the design of distribution networks known as Location Routing Problem (LRP).

**Keywords :** location routing problem, logistic, mining collection, model

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