

## **A Method to Quantitatively Analyze the Catchment Area of Freight Station**

Guoquan LI

Towards improving the efficiency of the freight transportation, revitalization of the railway transport is required. It is necessary to perform the fundamental analysis of the potential freight demand to be expected to use the railway. In this study, firstly the impacting factors of the freight transport concerning the freight station are systematically discussed, through the collection and investigation of the related data, and the shipper's consciousness survey. Then, an analytic model to evaluate the effect degree of the freight station on the surroundings is built, considering the location of the station, the schedule of the train and the infrastructure of the local transport and consciousness judgment of the shipper. Also by incorporating the built model into freight GIS, a method to estimate the catchment area of freight station is developed, quantitatively and visually. Finally, through a case study, the effect degree of the freight station on every municipality with a radius of about 50 km from the station is respectively calculated. In addition, the possibility to increase the effect power of the freight station by improving the railway transport service is tentatively described.