

A bilevel modelling approach to service network design and pricing: Application to intermodal transportation

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A bilevel model is proposed to jointly tackle the problems of designing intermodal freight services and determining their associated prices. At the upper level, an intermodal operator seeks profit maximization, whilst, at the lower level, the shippers minimize their logistics costs by dividing their demands between the leader's itineraries and an all-road alternative. Frequency delay constraints are considered as well, in order to capture the impact of the service reliability on the currently challenged intermodal market penetration.

Finally, we integrate discrete choice analysis in the expression of the lower level, in an innovative approach to depict real life.

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