

[DOI: 10.20472/IAC.2018.038.046](https://doi.org/10.20472/IAC.2018.038.046)

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BREAK-EVEN DISTANCE ESTIMATION BETWEEN COMBINED AND UNIMODAL ROAD FREIGHT TRANSPORT

Abstract:

The purpose of this research is to examine the impact of distance on choosing between combined and unimodal road transport. In doing so, the break-even distances between the two modes are calculated. The calculation relies on a Monte Carlo simulation that takes account of a randomly generated shipper and receiver's locations in two separated market areas, independently of a certain transport corridor. Methodically, the ideas and elements of the transport system analytical modelling found in the literature are used. The results confirm the importance of distance on the mode choice and show there is not only one but in fact many break-even distances between the two modes. They vary considerably depending on different travel plans, and shipper/receiver locations within market areas. Despite the inevitable assumptions made in such general analysis, the results reveal combined transport can provide a good alternative to unimodal road transport even over relatively very short distances if the drayage costs are not too high. We believe the research helps better understand competitiveness in the freight transport sector and may also be useful for policy- and other decision-makers seeking to improve their evaluation of the opportunities and competitiveness of combined transport. Nevertheless that could lead to a more sustainable transport system.

Keywords:

Break-even distance; freight mode choice; combined transport; Monte Carlo simulation

JEL Classification: L91, R40